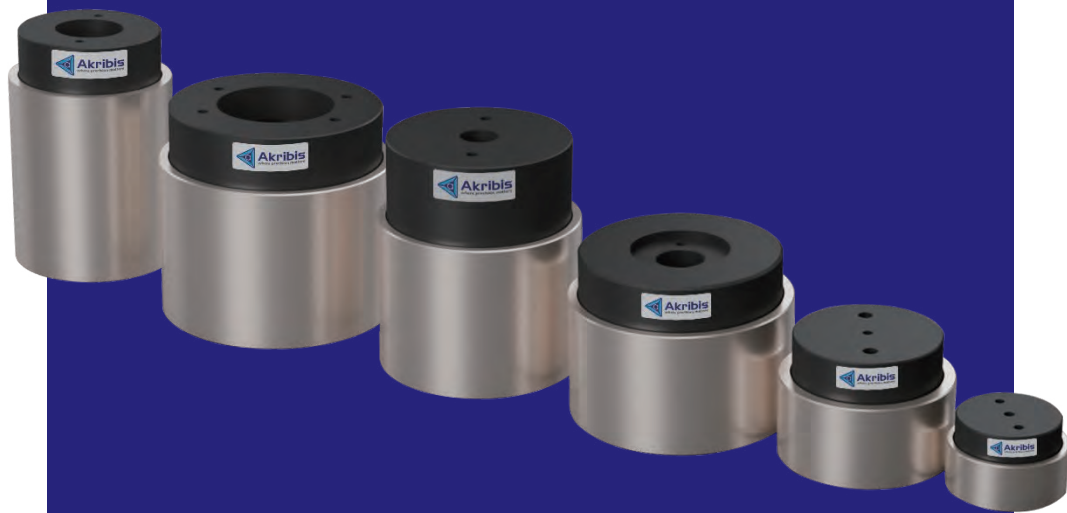




AVM SERIES

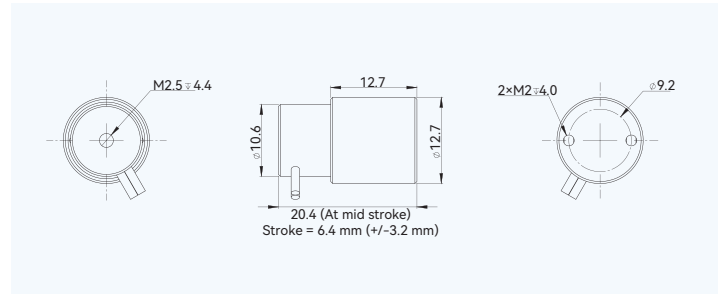
- ▶ Direct drive, zero cogging, zero backlash voice coil motors
- ▶ Low coil mass with very fast response and bandwidth
- ▶ No contact between coil and core movement (no wear and tear)
- ▶ Smooth motion at low speeds with limitless resolution (depends on feedback device)

EN-26.3.1

AVM12-6.4

Performance Parameters		Symbol	Unit	AVM12-6.4
Stroke		S	mm	6.4
Continuous Force @100°C ① ②		F _c	N	0.86
Peak Force ②		F _{pk}	N	3.33
Force Constant ±10% ②		K _f	N/A	0.54
Back EMF Constant ±10% ②		K _e	V/(m/s)	0.54
Motor Constant @25°C ②		K _m	N/Sqrt(W)	0.51
Resistance @25°C ±10% ③		R ₂₅	Ω	1.10
Inductance ±20% ④		L	mH	0.10
Electrical Time Constant		τ _e	ms	0.09
Continuous Current @100°C ①		I _c	A	1.6
Peak Current		I _{pk}	A	6.2
Continuous Power Dissipation @100°C ①		P _c	W	3.6
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.048
Max.Voltage		U _{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	5.0
Core Mass		m _{core}	g	7.3
Running Clearance		L _{gap}	mm	0.35
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

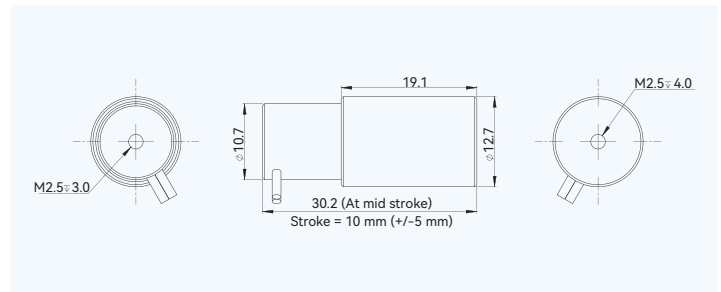


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject to change without prior notice.

AVM12-10

Performance Parameters		Symbol	Unit	AVM12-10
Stroke		S	mm	10.0
Continuous Force @100°C ^{① ②}		F _c	N	1.0
Peak Force ^②		F _{pk}	N	3.9
Force Constant ±10% ^②		K _f	N/A	0.55
Back EMF Constant ±10% ^②		K _e	V/(m/s)	0.55
Motor Constant @25°C ^②		K _m	N/Sqrt(W)	0.45
Resistance @25°C ±10% ^③		R ₂₅	Ω	1.50
Inductance ±20% ^④		L	mH	0.16
Electrical Time Constant		τ _e	ms	0.11
Continuous Current @100°C ^①		I _c	A	1.8
Peak Current		I _{pk}	A	7.0
Continuous Power Dissipation @100°C ^①		P _c	W	6.3
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ^①		K _{th}	W/°C	0.084
Max.Voltage		U _{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	7.1
Core Mass		m _{core}	g	10.4
Running Clearance		L _{gap}	mm	0.30
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

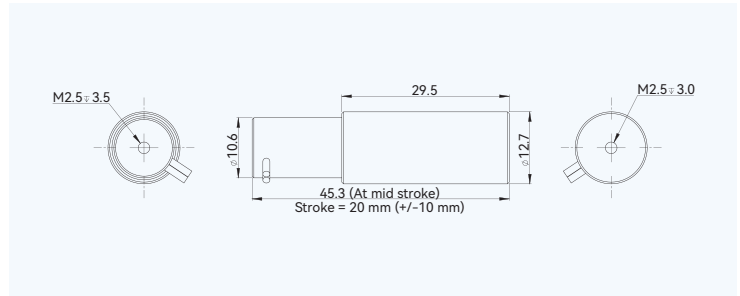


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject to change without prior notice.

AVM12-20

Performance Parameters		Symbol	Unit	AVM12-20
Stroke		S	mm	20.0
Continuous Force @100°C ^{①②}		F _c	N	1.0
Peak Force ^②		F _{pk}	N	3.8
Force Constant ±10% ^②		K _f	N/A	0.66
Back EMF Constant ±10% ^②		K _e	V/(m/s)	0.66
Motor Constant @25°C ^②		K _m	N/Sqrt(W)	0.37
Resistance @25°C ±10% ^③		R ₂₅	Ω	3.20
Inductance ±20% ^④		L	mH	0.33
Electrical Time Constant		τ _e	ms	0.10
Continuous Current @100°C ^①		I _c	A	1.5
Peak Current		I _{pk}	A	5.8
Continuous Power Dissipation @100°C ^①		P _c	W	9.3
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ^①		K _{th}	W/°C	0.124
Max.Voltage		U _{max}	V _{dc}	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	8.5
Core Mass		m _{core}	g	17.3
Running Clearance		L _{gap}	mm	0.35
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

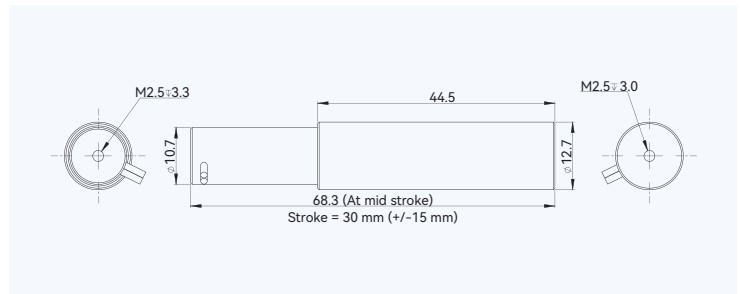


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject to change without prior notice.

AVM12-30

Performance Parameters		Symbol	Unit	AVM12-30
Stroke		S	mm	30.0
Continuous Force @100°C ① ②		F _c	N	0.90
Peak Force ②		F _{pk}	N	3.44
Force Constant ±10% ②		K _f	N/A	0.60
Back EMF Constant ±10% ②		K _e	V/(m/s)	0.60
Motor Constant @25°C ②		K _m	N/Sqrt(W)	0.31
Resistance @25°C ±10% ③		R ₂₅	Ω	3.70
Inductance ±20% ④		L	mH	0.45
Electrical Time Constant		τ _e	ms	0.12
Continuous Current @100°C ①		I _c	A	1.5
Peak Current		I _{pk}	A	5.8
Continuous Power Dissipation @100°C ①		P _c	W	10.7
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.143
Max.Voltage		U _{max}	V _{dc}	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	14.6
Core Mass		m _{core}	g	25.1
Running Clearance		L _{gap}	mm	0.30
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

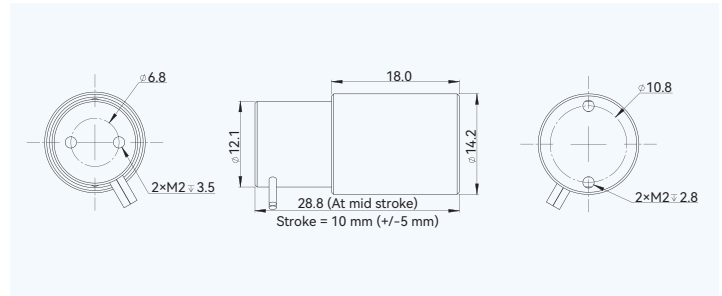


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject to change without prior notice.

AVM14-10

Performance Parameters		Symbol	Unit	AVM14-10
Stroke		S	mm	10.0
Continuous Force @100°C ①②		F _c	N	1.05
Peak Force ②		F _{pk}	N	3.12
Force Constant ±10% ②		K _f	N/A	0.87
Back EMF Constant ±10% ②		K _e	V/(m/s)	0.87
Motor Constant @25°C ②		K _m	N/Sqrt(W)	0.59
Resistance @25°C ±10% ③		R ₂₅	Ω	2.22
Inductance ±20% ④		L	mH	0.24
Electrical Time Constant		τ _e	ms	0.11
Continuous Current @100°C ①		I _c	A	1.2
Peak Current		I _{pk}	A	3.6
Continuous Power Dissipation @100°C ①		P _c	W	4.1
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.055
Max.Voltage		U _{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	3.0
Core Mass		m _{core}	g	13.6
Running Clearance		L _{gap}	mm	0.35
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

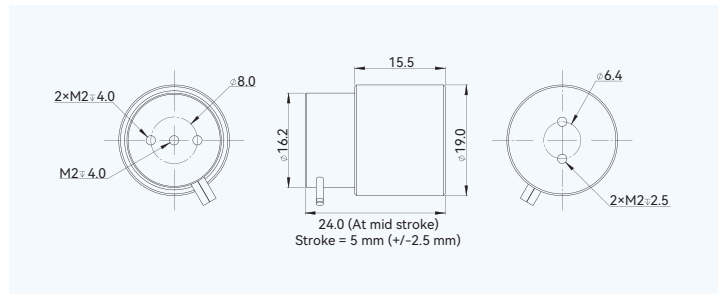


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 ② The values are at mid stroke.
 ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 ④ Inductance is measured by current frequency of 1 kHz.
 The contents of datasheet are subject to change without prior notice.

AVM19-5

Performance Parameters		Symbol	Unit	AVM19-5
Stroke		S	mm	5.0
Continuous Force @100°C ①②		F _c	N	1.66
Peak Force ②		F _{pk}	N	7.50
Force Constant ±10% ②		K _f	N/A	1.66
Back EMF Constant ±10% ②		K _e	V/(m/s)	1.66
Motor Constant @25°C ②		K _m	N/Sqrt(W)	1.11
Resistance @25°C ±10% ③		R ₂₅	Ω	2.24
Inductance ±20% ④		L	mH	0.29
Electrical Time Constant		τ _e	ms	0.13
Continuous Current @100°C ①		I _c	A	1.0
Peak Current		I _{pk}	A	4.5
Continuous Power Dissipation @100°C ①		P _c	W	2.9
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.038
Max.Voltage		U _{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	9.0
Core Mass		m _{core}	g	23.8
Running Clearance		L _{gap}	mm	0.40
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

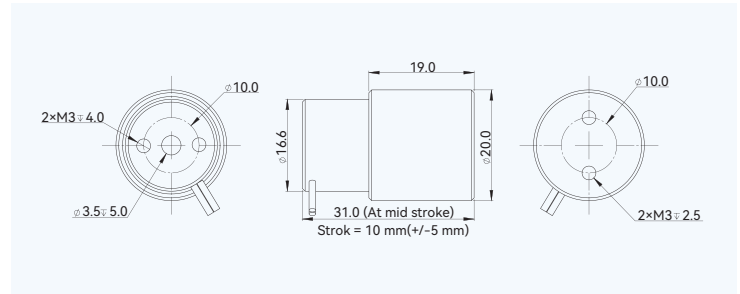


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 ② The values are at mid stroke.
 ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 ④ Inductance is measured by current frequency of 1 kHz.
 The contents of datasheet are subject to change without prior notice.

AVM20-10

Performance Parameters		Symbol	Unit	AVM20-10
Stroke		S	mm	10.0
Continuous Force @100°C ① ②		F _c	N	1.53
Peak Force ②		F _{pk}	N	7.42
Force Constant ±10% ②		K _f	N/A	1.97
Back EMF Constant ±10% ④		K _e	V/(m/s)	1.97
Motor Constant @25°C ②		K _m	N/Sqrt(W)	1.04
Resistance @25°C ±10% ③		R ₂₅	Ω	3.59
Inductance ±20% ④		L	mH	0.55
Electrical Time Constant		τ _e	ms	0.15
Continuous Current @100°C ①		I _c	A	0.8
Peak Current		I _{pk}	A	3.8
Continuous Power Dissipation @100°C ①		P _c	W	2.8
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.038
Max.Voltage		U _{max}	V _{dc}	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	11.0
Core Mass		m _{core}	g	45.1
Running Clearance		L _{gap}	mm	0.50
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

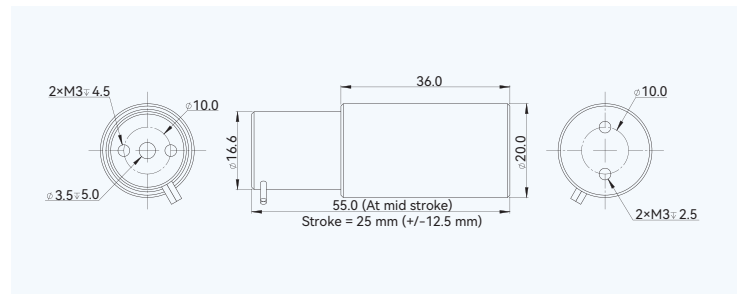


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject to change without prior notice.

AVM20-25

Performance Parameters		Symbol	Unit	AVM20-25
Stroke		S	mm	25.0
Continuous Force @100°C ^{①②}		F _c	N	1.52
Peak Force ^②		F _{pk}	N	6.87
Force Constant ±10% ^③		K _f	N/A	2.03
Back EMF Constant ±10% ^④		K _e	V/(m/s)	2.03
Motor Constant @25°C ^⑤		K _m	N/Sqrt(W)	0.80
Resistance @25°C ±10% ^③		R ₂₅	Ω	6.40
Inductance ±20% ^④		L	mH	1.15
Electrical Time Constant		τ _e	ms	0.18
Continuous Current @100°C ^①		I _c	A	0.8
Peak Current		I _{pk}	A	3.4
Continuous Power Dissipation @100°C ^①		P _c	W	4.6
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ^①		K _{th}	W/°C	0.062
Max.Voltage		U _{max}	V _{dc}	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	17.8
Core Mass		m _{core}	g	59.0
Running Clearance		L _{gap}	mm	0.50
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

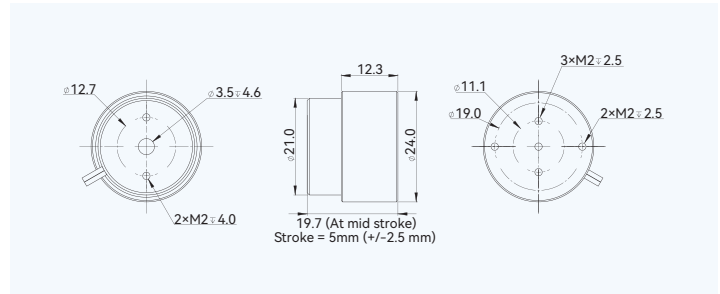


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject to change without prior notice.

AVM24-5

Performance Parameters		Symbol	Unit	AVM24-5
Stroke		S	mm	5.0
Continuous Force @100°C ^{①②}		F _c	N	2.13
Peak Force ^②		F _{pk}	N	11.7
Force Constant ±10% ^③		K _f	N/A	3.04
Back EMF Constant ±10% ^④		K _e	V/(m/s)	3.04
Motor Constant @25°C ^②		K _m	N/Sqrt(W)	1.71
Resistance @25°C ±10% ^③		R ₂₅	Ω	3.15
Inductance ±20% ^④		L	mH	0.55
Electrical Time Constant		τ _e	ms	0.17
Continuous Current @100°C ^①		I _c	A	0.7
Peak Current		I _{pk}	A	3.8
Continuous Power Dissipation @100°C ^①		P _c	W	2.0
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ^①		K _{th}	W/°C	0.027
Max.Voltage		U _{max}	V _{dc}	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	12.0
Core Mass		m _{core}	g	29.7
Running Clearance		L _{gap}	mm	0.50
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

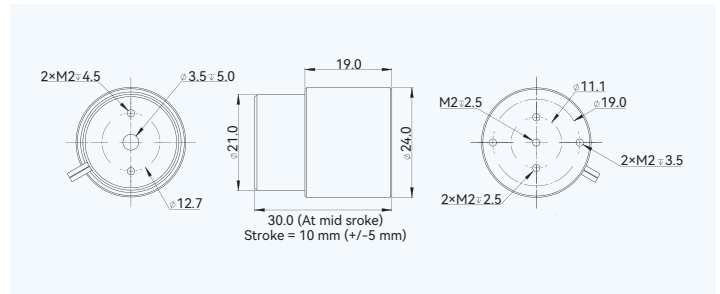


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 ② The values are at mid stroke.
 ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 ④ Inductance is measured by current frequency of 1 kHz.
 The contents of datasheet are subject to change without prior notice.

AVM24-10

Performance Parameters		Symbol	Unit	AVM24-10
Stroke		S	mm	10.0
Continuous Force @100°C ^{①②}		F _c	N	2.80
Peak Force ^②		F _{pk}	N	15.7
Force Constant ±10% ^②		K _f	N/A	4.12
Back EMF Constant ±10% ^②		K _e	V/(m/s)	4.12
Motor Constant @25°C ^②		K _m	N/Sqrt(W)	1.70
Resistance @25°C ±10% ^③		R ₂₅	Ω	5.86
Inductance ±20% ^④		L	mH	1.34
Electrical Time Constant		τ _e	ms	0.23
Continuous Current @100°C ^①		I _c	A	0.7
Peak Current		I _{pk}	A	3.8
Continuous Power Dissipation @100°C ^①		P _t	W	3.5
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ^①		K _{th}	W/°C	0.047
Max.Voltage		U _{max}	V _{dc}	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	16.5
Core Mass		m _{core}	g	45.0
Running Clearance		L _{gap}	mm	0.50
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

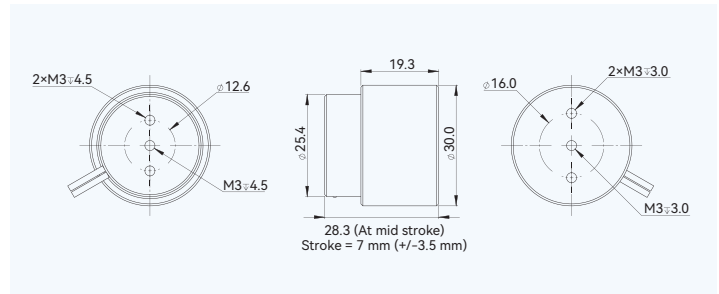


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 ② The values are at mid stroke.
 ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 ④ Inductance is measured by current frequency of 1 kHz.
 The contents of datasheet are subject to change without prior notice.

AVM30-7

Performance Parameters		Symbol	Unit	AVM30-7
Stroke		S	mm	7.0
Continuous Force @100°C ^{①②}		F _c	N	5.62
Peak Force ^②		F _{pk}	N	24.9
Force Constant ±10% ^③		K _f	N/A	6.18
Back EMF Constant ±10% ^④		K _e	V/(m/s)	6.18
Motor Constant @25°C ^②		K _m	N/Sqrt(W)	2.53
Resistance @25°C ±10% ^③		R ₂₅	Ω	5.94
Inductance ±20% ^④		L	mH	1.41
Electrical Time Constant		τ _e	ms	0.24
Continuous Current @100°C ^①		I _c	A	0.9
Peak Current		I _{pk}	A	4.0
Continuous Power Dissipation @100°C ^①		P _c	W	6.3
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ^①		K _{th}	W/°C	0.085
Max.Voltage		U _{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	18.4
Core Mass		m _{core}	g	86.2
Running Clearance		L _{gap}	mm	0.50
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

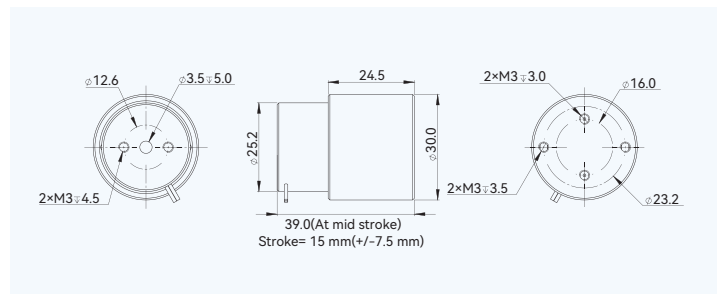


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject to change without prior notice.

AVM30-15

Performance Parameters		Symbol	Unit	AVM30-15
Stroke		S	mm	15.0
Continuous Force @100°C ①②		F _c	N	4.43
Peak Force ②		F _{pk}	N	28.2
Force Constant ±10% ③		K _f	N/A	7.03
Back EMF Constant ±10% ④		K _e	V/(m/s)	7.03
Motor Constant @25°C ②		K _m	N/Sqrt(W)	2.20
Resistance @25°C ±10% ③		R ₂₅	Ω	10.24
Inductance ±20% ④		L	mH	2.82
Electrical Time Constant		τ _e	ms	0.28
Continuous Current @100°C ①		I _c	A	0.6
Peak Current		I _{pk}	A	4.0
Continuous Power Dissipation @100°C ①		P _c	W	5.2
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.070
Max.Voltage		U _{max}	V _{dc}	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	25.1
Core Mass		m _{core}	g	95.6
Running Clearance		L _{gap}	mm	0.60
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

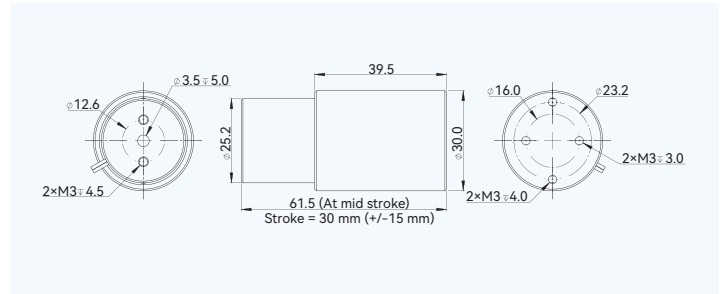


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject to change without prior notice.

AVM30-30

Performance Parameters		Symbol	Unit	AVM30-30
Stroke		S	mm	30.0
Continuous Force @100°C ^{① ②}		F _c	N	4.65
Peak Force ^②		F _{pk}	N	13.9
Force Constant ±10% ^③		K _f	N/A	3.32
Back EMF Constant ±10% ^④		K _e	V/(m/s)	3.32
Motor Constant @25°C ^②		K _m	N/Sqrt(W)	1.80
Resistance @25°C ±10% ^③		R ₂₅	Ω	3.40
Inductance ±20% ^④		L	mH	0.99
Electrical Time Constant		τ _e	ms	0.29
Continuous Current @100°C ^①		I _c	A	1.4
Peak Current		I _{pk}	A	4.2
Continuous Power Dissipation @100°C ^①		P _c	W	8.6
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ^①		K _{th}	W/°C	0.115
Max.Voltage		U _{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	48.3
Core Mass		m _{core}	g	150.6
Running Clearance		L _{gap}	mm	0.60
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

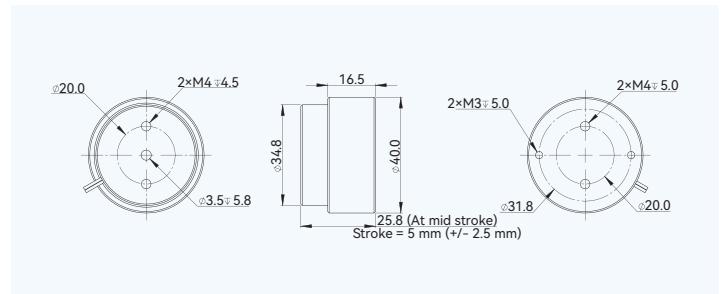


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject to change without prior notice.

AVM40-5

Performance Parameters		Symbol	Unit	AVM40-5
Stroke		S	mm	5.0
Continuous Force @100°C ① ②		F _c	N	6.45
Peak Force ②		F _{pk}	N	38.9
Force Constant ±10% ③		K _f	N/A	8.37
Back EMF Constant ±10% ④		K _e	V/(m/s)	8.37
Motor Constant @25°C ②		K _m	N/Sqrt(W)	3.90
Resistance @25°C ±10% ③		R ₂₅	Ω	4.60
Inductance ±20% ④		L	mH	2.15
Electrical Time Constant		τ _e	ms	0.47
Continuous Current @100°C ①		I _c	A	0.8
Peak Current		I _{pk}	A	4.5
Continuous Power Dissipation @100°C ①		P _c	W	3.5
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.047
Max.Voltage		U _{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	40.3
Core Mass		m _{core}	g	124.7
Running Clearance		L _{gap}	mm	0.60
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

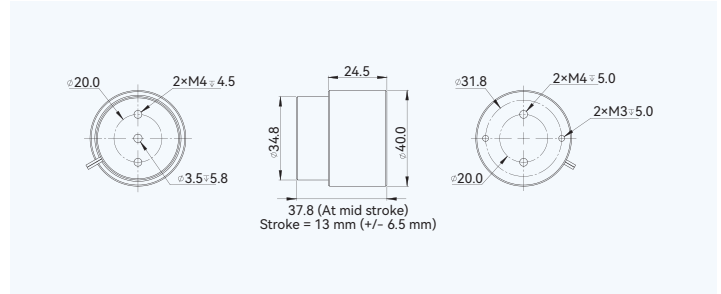


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject to change without prior notice.

AVM40-13

Performance Parameters		Symbol	Unit	AVM40-13
Stroke		S	mm	13.0
Continuous Force @100°C ^{① ②}		F _c	N	9.27
Peak Force ^②		F _{pk}	N	54.9
Force Constant ±10% ^②		K _f	N/A	12.0
Back EMF Constant ±10% ^④		K _e	V/(m/s)	12.0
Motor Constant @25°C ^②		K _m	N/Sqrt(W)	4.26
Resistance @25°C ±10% ^③		R ₂₅	Ω	8.0
Inductance ±20% ^④		L	mH	4.44
Electrical Time Constant		τ _e	ms	0.55
Continuous Current @100°C ^①		I _c	A	0.8
Peak Current		I _{pk}	A	4.5
Continuous Power Dissipation @100°C ^①		P _c	W	6.1
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ^①		K _{th}	W/°C	0.082
Max.Voltage		U _{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	50.0
Core Mass		m _{core}	g	175.1
Running Clearance		L _{gap}	mm	0.60
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

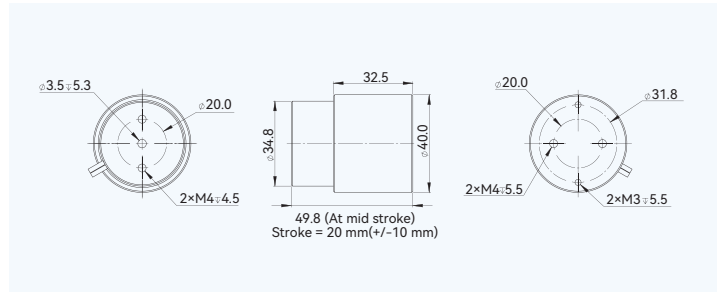


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 ② The values are at mid stroke.
 ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 ④ Inductance is measured by current frequency of 1 kHz.
 The contents of datasheet are subject to change without prior notice.

AVM40-20

Performance Parameters		Symbol	Unit	AVM40-20
Stroke		S	mm	20.0
Continuous Force @100°C ^{① ②}		F _c	N	10.5
Peak Force ^②		F _{pk}	N	61.7
Force Constant ±10% ^③		K _f	N/A	13.6
Back EMF Constant ±10% ^④		K _e	V/(m/s)	13.6
Motor Constant @25°C ^②		K _m	N/Sqrt(W)	4.02
Resistance @25°C ±10% ^③		R ₂₅	Ω	11.5
Inductance ±20% ^④		L	mH	5.2
Electrical Time Constant		τ _e	ms	0.45
Continuous Current @100°C ^①		I _c	A	0.8
Peak Current		I _{pk}	A	4.5
Continuous Power Dissipation @100°C ^①		P _c	W	8.8
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ^①		K _{th}	W/°C	0.117
Max.Voltage		U _{max}	Vdc	60
Mechanical Parameters				
Coil Mass	m _{coil}	g		64.0
Core Mass	m _{core}	g		226.2
Running Clearance	L _{gap}	mm		0.60
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

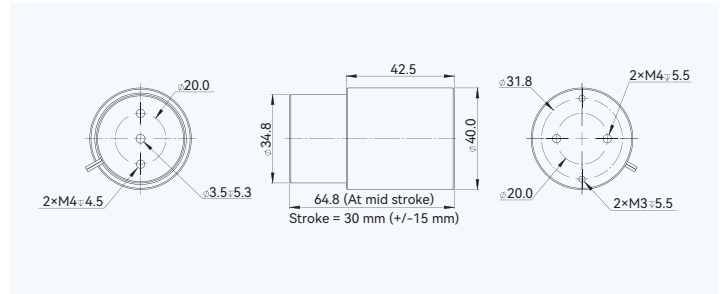


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 ② The values are at mid stroke.
 ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 ④ Inductance is measured by current frequency of 1 kHz.
 The contents of datasheet are subject to change without prior notice.

AVM40-30

Performance Parameters	Symbol	Unit	AVM40-30
Stroke	S	mm	30.0
Continuous Force @100°C ^{① ②}	F _c	N	11.1
Peak Force ^②	F _{pk}	N	65.3
Force Constant ±10% ^②	K _f	N/A	14.5
Back EMF Constant ±10% ^④	K _e	V/(m/s)	14.5
Motor Constant @25°C ^②	K _m	N/Sqrt(W)	3.64
Resistance @25°C ±10% ^③	R ₂₅	Ω	15.8
Inductance ±20% ^④	L	mH	7.9
Electrical Time Constant	τ _e	ms	0.50
Continuous Current @100°C ^①	I _c	A	0.8
Peak Current	I _{pk}	A	4.5
Continuous Power Dissipation @100°C ^①	P _c	W	12.1
Max. Coil Temperature	t _{max}	°C	100
Thermal Dissipation Constant ^①	K _{th}	W/°C	0.161
Max.Voltage	U _{max}	Vdc	60
Mechanical Parameters			
Coil Mass	m _{coil}	g	82.0
Core Mass	m _{core}	g	288.6
Running Clearance	L _{gap}	mm	0.60
Other Information			
Insulation Class		Class A (105°C)	
Protection Grade		IP00	
Compliance with Global Standards		RoHS	
Ambient Temperature	Operation	0°C to 40°C (non-freezing)	
	Storage	-15°C to 70°C (non-freezing)	
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)	
	Storage	10%RH to 90%RH (non-condensing)	
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.	

Dimension

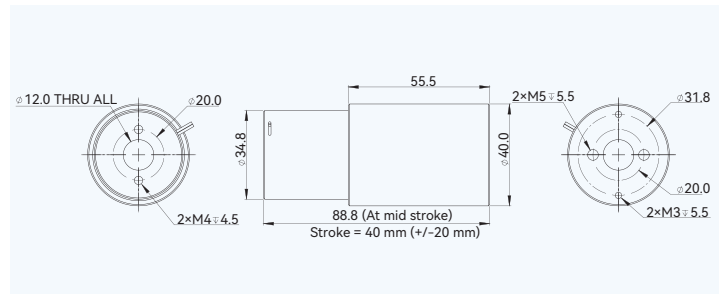


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 ② The values are at mid stroke.
 ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 ④ Inductance is measured by current frequency of 1 kHz.
 The contents of datasheet are subject to change without prior notice.

AVM40-40

Performance Parameters		Symbol	Unit	AVM40-40
Stroke		S	mm	40.0
Continuous Force @100°C ① ②		F _c	N	7.72
Peak Force ②		F _{pk}	N	39.5
Force Constant ±10% ③		K _f	N/Arms	6.17
Back EMF Constant ±10% ④		K _e	Vpeak/(m/s)	6.17
Motor Constant @25°C ②		K _m	N/Sqrt(W)	2.50
Resistance @25°C ±10% ③		R ₂₅	Ω	6.10
Inductance ±20% ④		L	mH	3.12
Electrical Time Constant		τ _e	ms	0.51
Continuous Current @100°C ①		I _c	Arms	1.3
Peak Current		I _{pk}	Arms	6.4
Continuous Power Dissipation @100°C ①		P _c	W	12.3
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.164
Max.Voltage		U _{max}	V _{dc}	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	150.2
Core Mass		m _{core}	g	321.2
Running Clearance		L _{gap}	mm	0.60
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

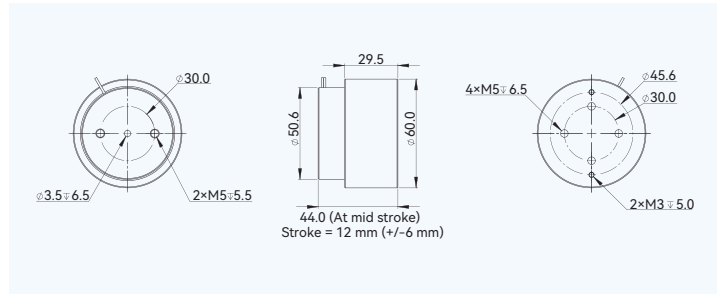


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 ② The values are at mid stroke.
 ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 ④ Inductance is measured by current frequency of 1 kHz.
 The contents of datasheet are subject to change without prior notice.

AVM60-12

Performance Parameters		Symbol	Unit	AVM60-12
Stroke		S	mm	12.0
Continuous Force @100°C ^{①②}		F _c	N	21.4
Peak Force ^②		F _{pk}	N	98.7
Force Constant ±10% ^③		K _f	N/A	13.8
Back EMF Constant ±10% ^③		K _e	V/(m/s)	13.8
Motor Constant @25°C ^④		K _m	N/Sqrt(W)	7.72
Resistance @25°C ±10% ^⑤		R ₂₅	Ω	3.20
Inductance ±20% ^⑥		L	mH	4.89
Electrical Time Constant		τ _e	ms	1.53
Continuous Current @100°C ^①		I _c	A	1.6
Peak Current		I _{pk}	A	7.0
Continuous Power Dissipation @100°C ^①		P _t	W	9.9
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ^①		K _{th}	W/°C	0.132
Max.Voltage		U _{max}	V _{dc}	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	130.0
Core Mass		m _{core}	g	480.0
Running Clearance		L _{gap}	mm	0.70
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

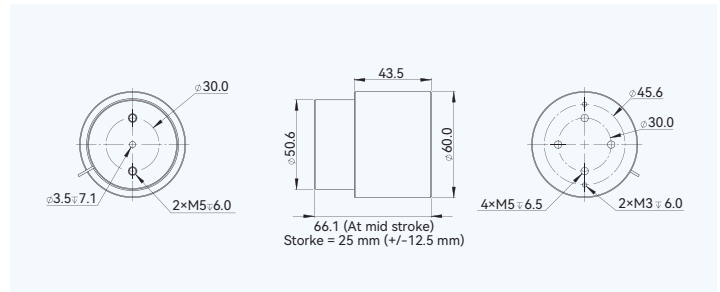


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 ② The values are at mid stroke.
 ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 ④ Inductance is measured by current frequency of 1 kHz.
 The contents of datasheet are subject to change without prior notice.

AVM60-25

Performance Parameters		Symbol	Unit	AVM60-25
Stroke		S	mm	25.0
Continuous Force @100°C ① ②		F _c	N	26.8
Peak Force ②		F _{pk}	N	121.6
Force Constant ±10% ②		K _f	N/A	17.3
Back EMF Constant ±10% ③		K _e	V/(m/s)	17.3
Motor Constant @25°C ③		K _m	N/Sqrt(W)	7.47
Resistance @25°C ±10% ④		R ₂₅	Ω	5.35
Inductance ±20% ④		L	mH	3.82
Electrical Time Constant		τ _e	ms	0.71
Continuous Current @100°C ①		I _c	A	1.6
Peak Current		I _{pk}	A	7.0
Continuous Power Dissipation @100°C ①		P _t	W	16.6
Max. Coil Temperature		τ _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.2
Max.Voltage		U _{max}	V _{dc}	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	212.0
Core Mass		m _{core}	g	692.9
Running Clearance		L _{gap}	mm	0.7
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

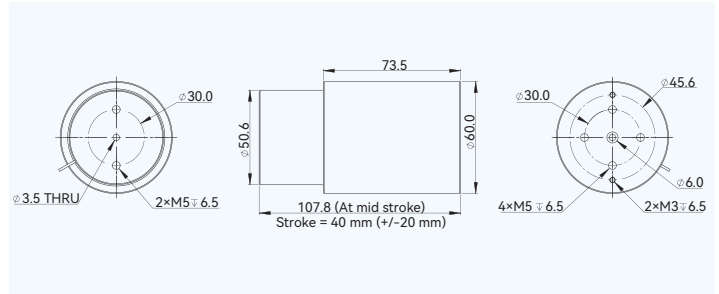


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 ② The values are at mid stroke.
 ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 ④ Inductance is measured by current frequency of 1 kHz.
 The contents of datasheet are subject to change without prior notice.

AVM60-40

Performance Parameters		Symbol	Unit	AVM60-40
Stroke		S	mm	40.0
Continuous Force @100°C ① ②		F _c	N	29.0
Peak Force ②		F _{pk}	N	131.1
Force Constant ±10% ②		K _f	N/A	18.7
Back EMF Constant ±10% ②		K _e	V/(m/s)	18.7
Motor Constant @25°C ②		K _m	N/Sqrt(W)	6.06
Resistance @25°C ±10% ③		R ₂₅	Ω	9.50
Inductance ±20% ④		L	mH	8.32
Electrical Time Constant		τ _e	ms	0.88
Continuous Current @100°C ①		I _c	A	1.6
Peak Current		I _{pk}	A	7.0
Continuous Power Dissipation @100°C ①		P _c	W	29.4
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.392
Max.Voltage		U _{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	446.9
Core Mass		m _{core}	g	1099.5
Running Clearance		L _{gap}	mm	0.70
Other Information				
Insulation Class	Class A (105°C)			
Protection Grade	IP00			
Compliance with Global Standards	RoHS			
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

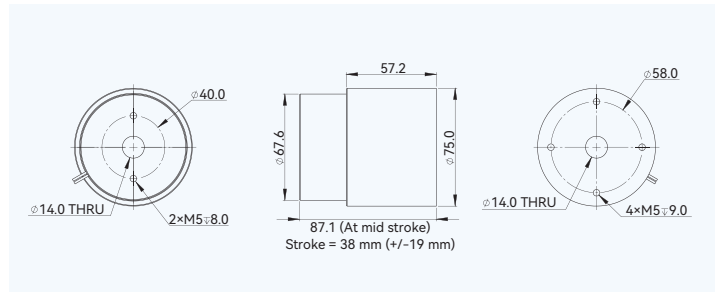


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject to change without prior notice.

AVM75-38

Performance Parameters		Symbol	Unit	AVM75-38
Stroke		S	mm	38.0
Continuous Force @100°C ① ②		F _c	N	48.6
Peak Force ②		F _{pk}	N	209.9
Force Constant ±10% ②		K _f	N/A	14.7
Back EMF Constant ±10% ②		K _e	V/(m/s)	14.7
Motor Constant @25°C ②		K _m	N/Sqrt(W)	9.9
Resistance @25°C ±10% ③		R ₂₅	Ω	2.20
Inductance ±20% ④		L	mH	1.99
Electrical Time Constant		τ _e	ms	0.90
Continuous Current @100°C ①		I _c	A	3.3
Peak Current		I _{pk}	A	14.0
Continuous Power Dissipation @100°C ①		P _c	W	30.9
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.41
Max.Voltage		U _{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	534.0
Core Mass		m _{core}	g	1236.0
Running Clearance		L _{gap}	mm	0.50
Other Information				
Insulation Class	Class A (105°C)			
Protection Grade	IP00			
Compliance with Global Standards	RoHS			
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

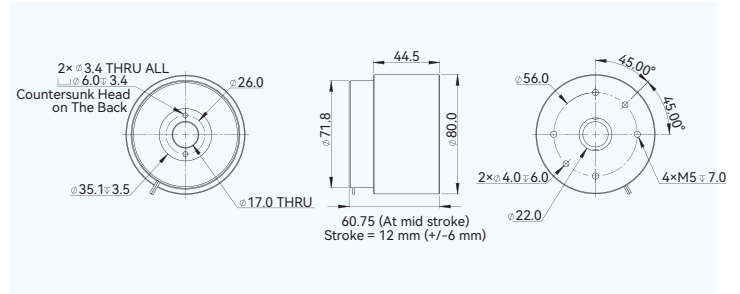


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject to change without prior notice.

AVM80-12

Performance Parameters		Symbol	Unit	AVM80-12
Stroke		S	mm	12.0
Continuous Force @100°C ^{①②}		F _c	N	47.9
Peak Force ^②		F _{pk}	N	205.9
Force Constant ±10% ^②		K _f	N/A	32.8
Back EMF Constant ±10% ^②		K _e	V/(m/s)	32.8
Motor Constant @25°C ^②		K _m	N/Sqrt(W)	12.0
Resistance @25°C ±10% ^③		R ₂₅	Ω	7.50
Inductance ±20% ^④		L	mH	1.70
Electrical Time Constant		τ _e	ms	0.23
Continuous Current @100°C ^①		I _c	A	1.5
Peak Current		I _{pk}	A	6.2
Continuous Power Dissipation @100°C ^①		P _c	W	20.6
Max. Coil Temperature		τ _{max}	°C	100
Thermal Dissipation Constant ^①		K _{th}	W/°C	0.275
Max.Voltage		U _{max}	V _{dc}	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	235.3
Core Mass		m _{core}	g	1265.0
Running Clearance		L _{gap}	mm	0.60
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

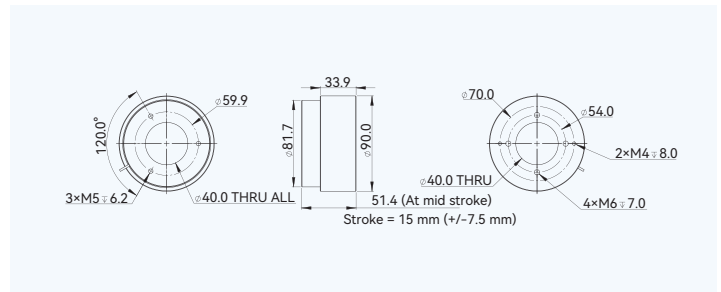


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 ② The values are at mid stroke.
 ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 ④ Inductance is measured by current frequency of 1 kHz.
 The contents of datasheet are subject to change without prior notice.

AVM90-15

Performance Parameters		Symbol	Unit	AVM90-15
Stroke		S	mm	15.0
Continuous Force @100°C ^{① ②}		F _c	N	36.1
Peak Force ^②		F _{pk}	N	132.5
Force Constant ±10% ^③		K _f	N/A	9.01
Back EMF Constant ±10% ^③		K _e	V/(m/s)	9.01
Motor Constant @25°C ^②		K _m	N/Sqrt(W)	7.62
Resistance @25°C ±10% ^③		R ₂₅	Ω	1.40
Inductance ±20% ^④		L	mH	1.20
Electrical Time Constant		τ _e	ms	0.86
Continuous Current @100°C ^①		I _c	A	4.0
Peak Current		I _{pk}	A	14.0
Continuous Power Dissipation @100°C ^①		P _t	W	28.9
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ^①		K _{th}	W/°C	0.38
Max.Voltage		U _{max}	V _{dc}	120
Mechanical Parameters				
Coil Mass		m _{coil}	g	563.5
Core Mass		m _{core}	g	831.9
Running Clearance		L _{gap}	mm	0.60
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

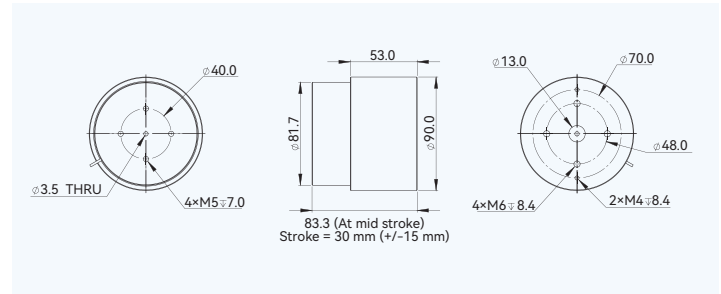


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 ② The values are at mid stroke.
 ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 ④ Inductance is measured by current frequency of 1 kHz.
 The contents of datasheet are subject to change without prior notice.

AVM90-30

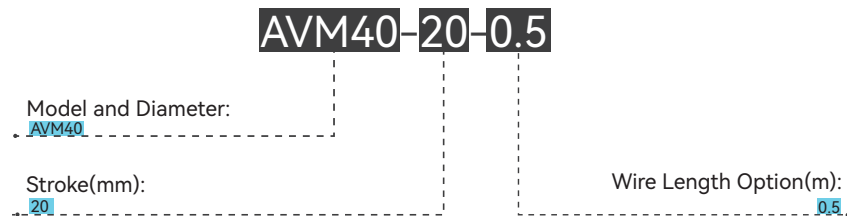
Performance Parameters		Symbol	Unit	AVM90-30
Stroke		S	mm	30.0
Continuous Force @100°C ① ②		F _c	N	95.6
Peak Force ②		F _{pk}	N	340.3
Force Constant ±10% ②		K _f	N/A	23.9
Back EMF Constant ±10% ②		K _e	V/(m/s)	23.9
Motor Constant @25°C ②		K _m	N/Sqrt(W)	14.5
Resistance @25°C ±10% ③		R ₂₅	Ω	2.73
Inductance ±20% ④		L	mH	3.50
Electrical Time Constant		T _e	ms	1.28
Continuous Current @100°C ①		I _c	A	4.0
Peak Current		I _{pk}	A	14.0
Continuous Power Dissipation @100°C ①		P _c	W	56.3
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.751
Max.Voltage		U _{max}	Vdc	120
Mechanical Parameters				
Coil Mass		m _{coil}	g	820.0
Core Mass		m _{core}	g	1639.0
Running Clearance		L _{gap}	mm	0.65
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension



- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject to change without prior notice.

Part Numbering

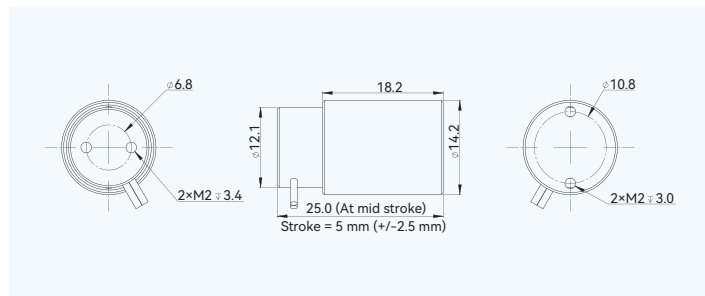


AVM High Force Series

AVM14-HF-5

Performance Parameters		Symbol	Unit	AVM14-HF-5
Stroke		S	mm	5.0
Continuous Force @100°C ① ②		F _c	N	2.27
Peak Force ②		F _{pk}	N	6.81
Force Constant ±10% ②		K _f	N/A	1.75
Back EMF Constant ±10% ②		K _e	V/(m/s)	1.75
Motor Constant @25°C ②		K _m	N/Sqrt(W)	1.26
Resistance @25°C ±10% ③		R ₂₅	Ω	1.93
Inductance ±20% ④		L	mH	0.14
Electrical Time Constant		τ _e	ms	0.07
Continuous Current @100°C ①		I _c	A	1.3
Peak Current		I _{pk}	A	3.9
Continuous Power Dissipation @100°C ①		P _t	W	4.2
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.056
Max.Voltage		U _{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	7.0
Core Mass		m _{core}	g	13.7
Running Clearance		L _{gap}	mm	0.35
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

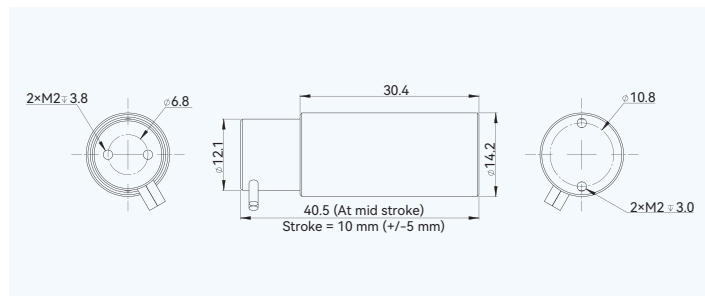


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject to change without prior notice.

AVM14-HF-10

Performance Parameters		Symbol	Unit	AVM14-HF-10
Stroke		S	mm	10.0
Continuous Force @100°C ① ②		F _c	N	3.22
Peak Force ②		F _{pk}	N	9.65
Force Constant ±10% ②		K _f	N/A	2.48
Back EMF Constant ±10% ②		K _e	V/(m/s)	2.48
Motor Constant @25°C ②		K _m	N/Sqrt(W)	1.30
Resistance @25°C ±10% ③		R ₂₅	Ω	3.60
Inductance ±20% ④		L	mH	0.36
Electrical Time Constant		τ _e	ms	0.10
Continuous Current @100°C ①		I _c	A	1.3
Peak Current		I _{pk}	A	3.9
Continuous Power Dissipation @100°C ①		P _c	W	7.8
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.105
Max.Voltage		U _{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	10.1
Core Mass		m _{core}	g	22.3
Running Clearance		L _{gap}	mm	0.35
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

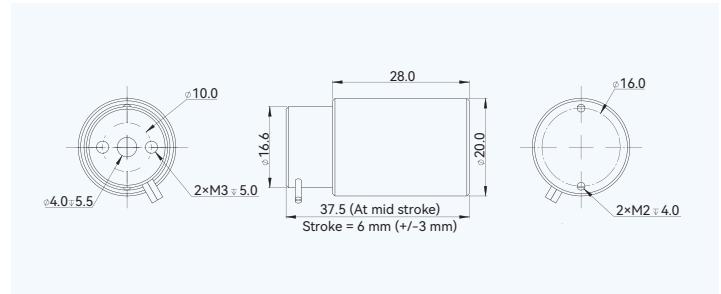


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject to change without prior notice.

AVM20-HF-6

Performance Parameters		Symbol	Unit	AVM20-HF-6
Stroke		S	mm	6.0
Continuous Force @100°C ① ②		F _c	N	5.44
Peak Force ②		F _{pk}	N	16.3
Force Constant ±10% ③		K _f	N/A	4.54
Back EMF Constant ±10% ④		K _e	V/(m/s)	4.54
Motor Constant @25°C ④		K _m	N/Sqrt(W)	2.06
Resistance @25°C ±10% ③		R ₂₅	Ω	4.84
Inductance ±20% ④		L	mH	0.60
Electrical Time Constant		τ _e	ms	0.12
Continuous Current @100°C ①		I _c	A	1.2
Peak Current		I _{pk}	A	3.6
Continuous Power Dissipation @100°C ①		P _c	W	9.0
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.120
Max.Voltage		U _{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	13.5
Core Mass		m _{core}	g	47.5
Running Clearance		L _{gap}	mm	0.50
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

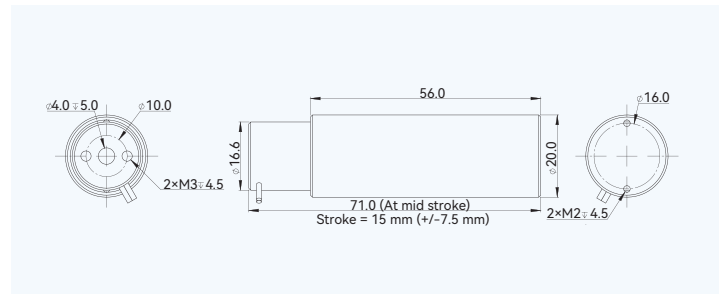


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject to change without prior notice.

AVM20-HF-15

Performance Parameters		Symbol	Unit	AVM20-HF-15
Stroke		S	mm	15.0
Continuous Force @100°C ① ②		F _c	N	4.54
Peak Force ②		F _{pk}	N	19.8
Force Constant ±10% ③		K _f	N/A	5.83
Back EMF Constant ±10% ④		K _e	V/(m/s)	5.83
Motor Constant @25°C ④		K _m	N/Sqrt(W)	1.96
Resistance @25°C ±10% ③		R ₂₅	Ω	8.80
Inductance ±20% ④		L	mH	1.48
Electrical Time Constant		τ _e	ms	0.17
Continuous Current @100°C ①		I _c	A	0.8
Peak Current		I _{pk}	A	3.4
Continuous Power Dissipation @100°C ①		P _c	W	6.9
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.092
Max.Voltage		U _{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	24.3
Core Mass		m _{core}	g	89.6
Running Clearance		L _{gap}	mm	0.50
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

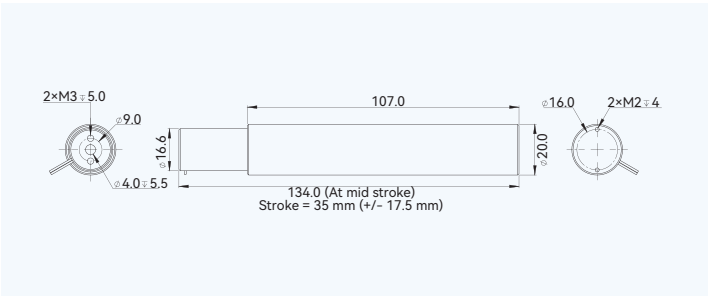


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject to change without prior notice.

AVM20-HF-35

Performance Parameters		Symbol	Unit	AVM20-HF-35
Stroke		S	mm	35.0
Continuous Force @100°C ❶ ❷		F _c	N	4.80
Peak Force ❷		F _{pk}	N	23.9
Force Constant ±10% ❸		K _f	N/A	3.43
Back EMF Constant ±10% ❷		K _e	V/(m/s)	3.43
Motor Constant @25°C ❷		K _m	N/Sqrt(W)	1.56
Resistance @25°C ±10% ❸		R ₂₅	Ω	4.80
Inductance ±20% ❷		L	mH	1.40
Electrical Time Constant		τ _e	ms	0.29
Continuous Current @100°C ❶		I _c	A	1.4
Peak Current		I _{pk}	A	7.0
Continuous Power Dissipation @100°C ❶		P _c	W	12.1
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ❶		K _{th}	W/°C	0.162
Max.Voltage		U _{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	72.9
Core Mass		m _{core}	g	150.4
Running Clearance		L _{gap}	mm	0.50
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

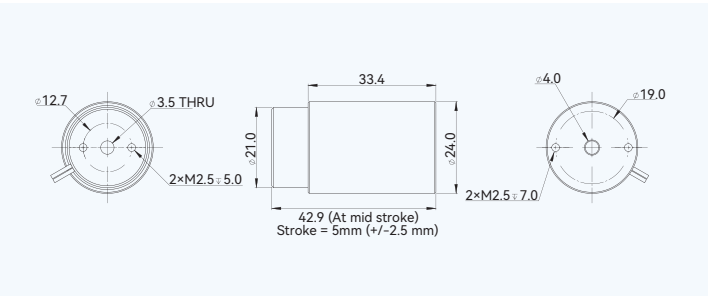


- ❶ Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
❷ The values are at mid stroke.
❸ Resistance is measured by DC current with standard 0.5 m lead wire.
❹ Inductance is measured by current frequency of 1 kHz.
The contents of datasheet are subject to change without prior notice.

AVM24-HF-5

Performance Parameters		Symbol	Unit	AVM24-HF-5
Stroke		S	mm	5.0
Continuous Force @100°C ❶ ❷		F _c	N	6.13
Peak Force ❷		F _{pk}	N	33.5
Force Constant ±10% ❸		K _f	N/A	8.76
Back EMF Constant ±10% ❷		K _e	V/(m/s)	8.76
Motor Constant @25°C ❷		K _m	N/Sqrt(W)	3.03
Resistance @25°C ±10% ❸		R ₂₅	Ω	8.35
Inductance ±20% ❷		L	mH	1.68
Electrical Time Constant		τ _e	ms	0.20
Continuous Current @100°C ❶		I _c	A	0.7
Peak Current		I _{pk}	A	3.8
Continuous Power Dissipation @100°C ❶		P _c	W	5.3
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ❶		K _{th}	W/°C	0.070
Max.Voltage		U _{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	21.5
Core Mass		m _{core}	g	82.0
Running Clearance		L _{gap}	mm	0.50
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

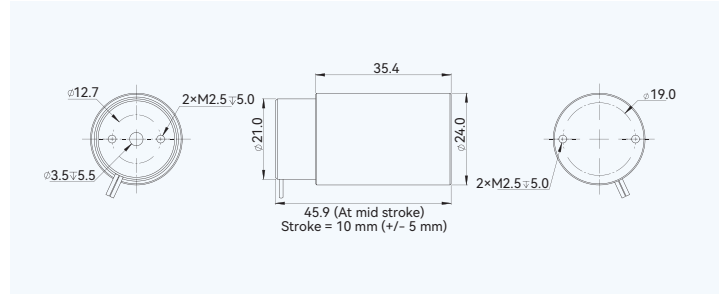


- ❶ Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
❷ The values are at mid stroke.
❸ Resistance is measured by DC current with standard 0.5 m lead wire.
❹ Inductance is measured by current frequency of 1 kHz.
The contents of datasheet are subject to change without prior notice.

AVM24-HF-10

Performance Parameters		Symbol	Unit	AVM24-HF-10
Stroke		S	mm	10.0
Continuous Force @100°C ①②		F _c	N	7.53
Peak Force ②		F _{pk}	N	40.9
Force Constant ±10% ③		K _f	N/A	10.8
Back EMF Constant ±10% ④		K _e	V/(m/s)	10.8
Motor Constant @25°C ②		K _m	N/Sqrt(W)	3.45
Resistance @25°C ±10% ③		R ₂₅	Ω	9.70
Inductance ±20% ④		L	mH	2.11
Electrical Time Constant		τ _e	ms	0.22
Continuous Current @100°C ①		I _c	A	0.7
Peak Current		I _{pk}	A	3.8
Continuous Power Dissipation @100°C ①		P _l	W	6.1
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.082
Max.Voltage		U _{max}	V _{dc}	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	23.5
Core Mass		m _{core}	g	81.1
Running Clearance		L _{gap}	mm	0.50
Other Information				
Insulation Class	Class A (105°C)			
Protection Grade	IP00			
Compliance with Global Standards	RoHS			
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

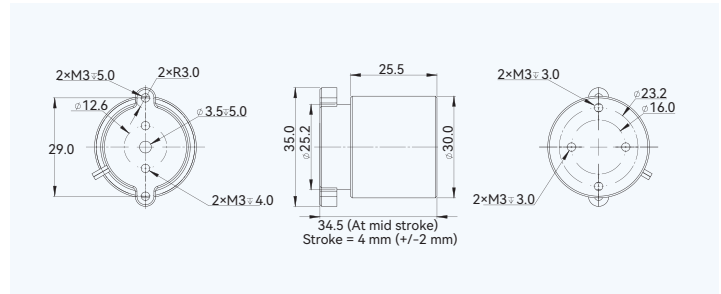


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject to change without prior notice.

AVM30-HF-4

Performance Parameters		Symbol	Unit	AVM30-HF-4
Stroke		S	mm	4.0
Continuous Force @100°C ①②		F _c	N	7.23
Peak Force ②		F _{pk}	N	46.1
Force Constant ±10% ③		K _f	N/Arms	11.5
Back EMF Constant ±10% ④		K _e	Vpeak/(m/s)	11.5
Motor Constant @25°C ②		K _m	N/Sqrt(W)	4.06
Resistance @25°C ±10% ③		R ₂₅	Ω	8.0
Inductance ±20% ④		L	mH	1.40
Electrical Time Constant		τ _e	ms	0.17
Continuous Current @100°C ①		I _c	Arms	0.6
Peak Current		I _{pk}	Arms	4.0
Continuous Power Dissipation @100°C ①		P _l	W	4.1
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.055
Max.Voltage		U _{max}	V _{dc}	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	27.7
Core Mass		m _{core}	g	98.7
Running Clearance		L _{gap}	mm	0.60
Other Information				
Insulation Class	Class A (105°C)			
Protection Grade	IP00			
Compliance with Global Standards	RoHS			
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension



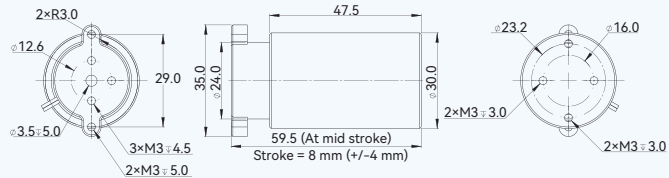
- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject to change without prior notice.

AVM High Force Series

AVM30-HF-8

Performance Parameters		Symbol	Unit	AVM30-HF-8
Stroke		S	mm	8.0
Continuous Force @100°C ^{①②}		F _c	N	9.99
Peak Force ^②		F _{pk}	N	51.9
Force Constant ±10% ^②		K _f	N/A	13.0
Back EMF Constant ±10% ^②		K _e	V/(m/s)	13.0
Motor Constant @25°C ^②		K _m	N/Sqrt(W)	4.14
Resistance @25°C ±10% ^③		R ₂₅	Ω	9.80
Inductance ±20% ^④		L	mH	1.75
Electrical Time Constant		τ _e	ms	0.18
Continuous Current @100°C ^①		I _c	A	0.8
Peak Current		I _{pk}	A	4.0
Continuous Power Dissipation @100°C ^①		P _t	W	7.5
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ^①		K _{th}	W/°C	0.100
Max.Voltage		U _{max}	V _{dc}	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	30.9
Core Mass		m _{core}	g	194.9
Running Clearance		L _{gap}	mm	0.60
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

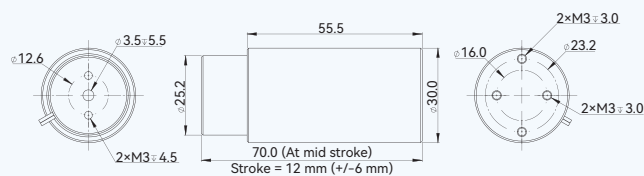


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 ② The values are at mid stroke.
 ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 ④ Inductance is measured by current frequency of 1 kHz.
 The contents of datasheet are subject to change without prior notice.

AVM30-HF-12

Performance Parameters		Symbol	Unit	AVM30-HF-12
Stroke		S	mm	12.0
Continuous Force @100°C ^{①②}		F _c	N	12.9
Peak Force ^②		F _{pk}	N	81.8
Force Constant ±10% ^②		K _f	N/Arms	10.2
Back EMF Constant ±10% ^②		K _e	Vpeak/(m/s)	10.2
Motor Constant @25°C ^②		K _m	N/Sqrt(W)	4.52
Resistance @25°C ±10% ^③		R ₂₅	Ω	5.10
Inductance ±20% ^④		L	mH	1.39
Electrical Time Constant		τ _e	ms	0.27
Continuous Current @100°C ^①		I _c	Arms	1.3
Peak Current		I _{pk}	Arms	8.0
Continuous Power Dissipation @100°C ^①		P _c	W	10.4
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ^①		K _{th}	W/°C	0.139
Max.Voltage		U _{max}	V _{dc}	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	57.5
Core Mass		m _{core}	g	210.6
Running Clearance		L _{gap}	mm	0.60
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

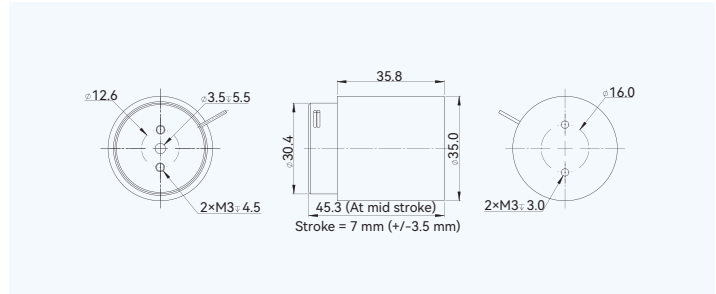


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 ② The values are at mid stroke.
 ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 ④ Inductance is measured by current frequency of 1 kHz.
 The contents of datasheet are subject to change without prior notice.

AVM35-HF-7

Performance Parameters		Symbol	Unit	AVM35-HF-7
Stroke		S	mm	7.0
Continuous Force @100°C ① ②		F _c	N	14.8
Peak Force ②		F _{pk}	N	73.0
Force Constant ±10% ②		K _f	N/A	16.4
Back EMF Constant ±10% ②		K _e	V/(m/s)	16.4
Motor Constant @25°C ②		K _m	N/Sqrt(W)	5.39
Resistance @25°C ±10% ③		R ₂₅	Ω	9.28
Inductance ±20% ④		L	mH	3.55
Electrical Time Constant		τ _e	ms	0.38
Continuous Current @100°C ①		I _c	A	0.9
Peak Current		I _{pk}	A	4.5
Continuous Power Dissipation @100°C ①		P _c	W	9.7
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.129
Max.Voltage		U _{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	53.0
Core Mass		m _{core}	g	146.8
Running Clearance		L _{gap}	mm	0.50
Other Information				
Insulation Class	Class A (105°C)			
Protection Grade	IP00			
Compliance with Global Standards	RoHS			
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

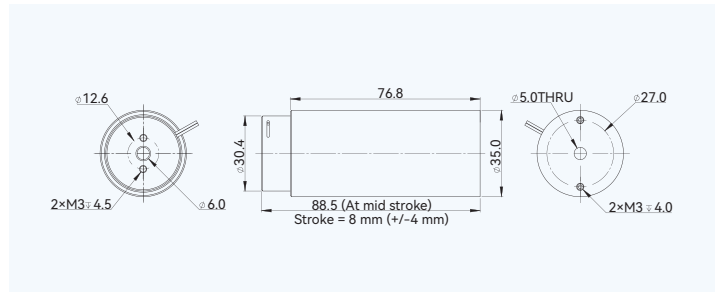


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
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AVM35-HF-8

Performance Parameters		Symbol	Unit	AVM35-HF-8
Stroke		S	mm	8.0
Continuous Force @100°C ① ②		F _c	N	30.5
Peak Force ②		F _{pk}	N	152.4
Force Constant ±10% ②		K _f	N/A	38.1
Back EMF Constant ±10% ②		K _e	V/(m/s)	38.1
Motor Constant @25°C ②		K _m	N/Sqrt(W)	9.24
Resistance @25°C ±10% ③		R ₂₅	Ω	17.0
Inductance ±20% ④		L	mH	7.15
Electrical Time Constant		τ _e	ms	0.42
Continuous Current @100°C ①		I _c	A	0.8
Peak Current		I _{pk}	A	4.0
Continuous Power Dissipation @100°C ①		P _c	W	14.0
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.187
Max.Voltage		U _{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	85.2
Core Mass		m _{core}	g	371.4
Running Clearance		L _{gap}	mm	0.50
Other Information				
Insulation Class	Class A (105°C)			
Protection Grade	IP00			
Compliance with Global Standards	RoHS			
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension



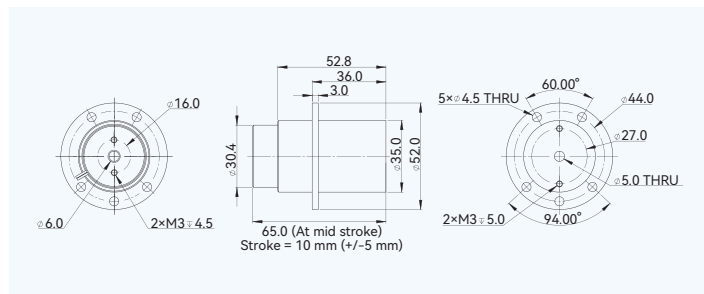
- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject to change without prior notice.

AVM High Force Series

AVM35-HF-10

Performance Parameters		Symbol	Unit	AVM35-HF-10
Stroke		S	mm	10.0
Continuous Force @100°C ① ②		F _c	N	19.0
Peak Force ②		F _{pk}	N	95.1
Force Constant ±10% ②		K _f	N/A	23.8
Back EMF Constant ±10% ②		K _e	V/(m/s)	23.8
Motor Constant @25°C ②		K _m	N/Sqrt(W)	6.79
Resistance @25°C ±10% ③		R ₂₅	Ω	12.2
Inductance ±20% ④		L	mH	5.22
Electrical Time Constant		τ _e	ms	0.43
Continuous Current @100°C ①		I _c	A	0.8
Peak Current		I _{pk}	A	4.0
Continuous Power Dissipation @100°C ①		P _t	W	10.1
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.134
Max.Voltage		U _{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	78.0
Core Mass		m _{core}	g	285.7
Running Clearance		L _{gap}	mm	0.50
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

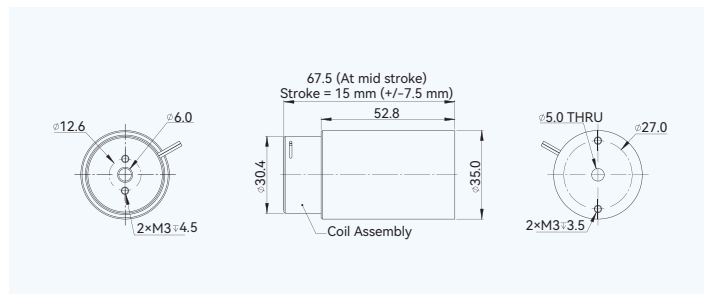


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 ② The values are at mid stroke.
 ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 ④ Inductance is measured by current frequency of 1 kHz.
 The contents of datasheet are subject to change without prior notice.

AVM35-HF-15

Performance Parameters		Symbol	Unit	AVM35-HF-15
Stroke		S	mm	15.0
Continuous Force @100°C ^{① ②}		F _c	N	20.5
Peak Force ^②		F _{pk}	N	103.0
Force Constant ±10% ^②		K _f	N/A	25.7
Back EMF Constant ±10% ^②		K _e	V/(m/s)	25.7
Motor Constant @25°C ^②		K _m	N/Sqrt(W)	6.48
Resistance @25°C ±10% ^③		R ₂₅	Ω	15.7
Inductance ±20% ^④		L	mH	7.36
Electrical Time Constant		τ _e	ms	0.47
Continuous Current @100°C ^①		I _c	A	0.8
Peak Current		I _{pk}	A	4.0
Continuous Power Dissipation @100°C ^①		P _c	W	12.9
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ^①		K _{th}	W/°C	0.173
Max.Voltage		U _{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	78.0
Core Mass		m _{core}	g	262.7
Running Clearance		L _{gap}	mm	0.50
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

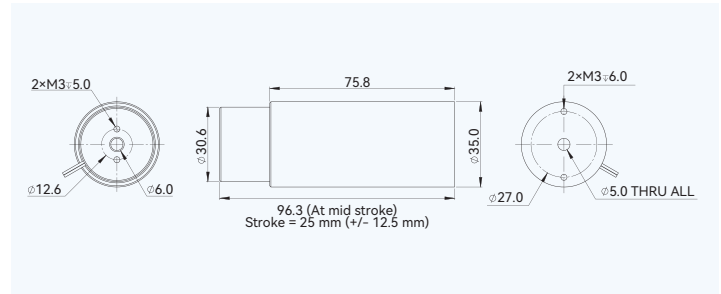


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 ② The values are at mid stroke.
 ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 ④ Inductance is measured by current frequency of 1 kHz.
 The contents of datasheet are subject to change without prior notice.

AVM35-HF-25

Performance Parameters		Symbol	Unit	AVM35-HF-25
Stroke		S	mm	25.0
Continuous Force @100°C ① ②		F _c	N	27.9
Peak Force ②		F _{pk}	N	139.5
Force Constant ±10% ③		K _f	N/A	13.9
Back EMF Constant ±10% ④		K _e	V/(m/s)	13.9
Motor Constant @25°C ②		K _m	N/Sqrt(W)	6.11
Resistance @25°C ±10% ③		R ₂₅	Ω	5.20
Inductance ±20% ④		L	mH	2.94
Electrical Time Constant		τ _e	ms	0.57
Continuous Current @100°C ①		I _c	A	2.0
Peak Current		I _{pk}	A	10.0
Continuous Power Dissipation @100°C ①		P _c	W	26.8
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.357
Max.Voltage		U _{max}	V _{dc}	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	123.0
Core Mass		m _{core}	g	358.8
Running Clearance		L _{gap}	mm	0.50
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

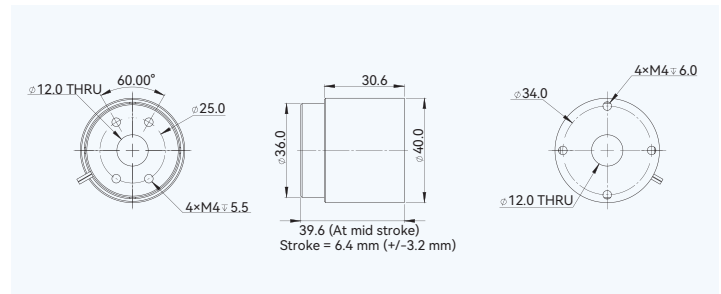


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
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AVM40-HF-6.4

Performance Parameters		Symbol	Unit	AVM40-HF-6.4
Stroke		S	mm	6.4
Continuous Force @100°C ① ②		F _c	N	17.7
Peak Force ②		F _{pk}	N	96.3
Force Constant ±10% ③		K _f	N/A	13.6
Back EMF Constant ±10% ④		K _e	V/(m/s)	13.6
Motor Constant @25°C ②		K _m	N/Sqrt(W)	5.82
Resistance @25°C ±10% ③		R ₂₅	Ω	5.48
Inductance ±20% ④		L	mH	1.44
Electrical Time Constant		τ _e	ms	0.26
Continuous Current @100°C ①		I _c	A	1.3
Peak Current		I _{pk}	A	7.0
Continuous Power Dissipation @100°C ①		P _c	W	11.9
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.159
Max.Voltage		U _{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	49.0
Core Mass		m _{core}	g	195.0
Running Clearance		L _{gap}	mm	0.50
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension



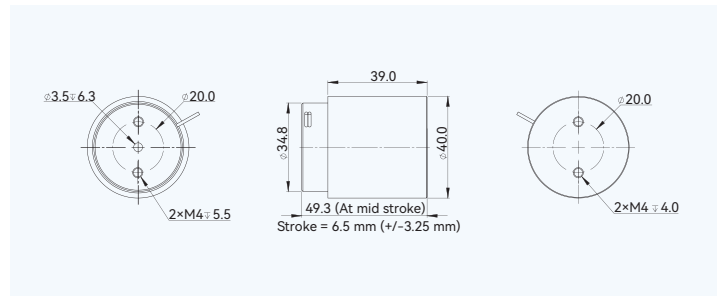
- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject to change without prior notice.

AVM High Force Series

AVM40-HF-6.5

Performance Parameters		Symbol	Unit	AVM40-HF-6.5
Stroke		S	mm	6.5
Continuous Force @100°C ^{① ②}		F _c	N	17.1
Peak Force ^②		F _{pk}	N	95.5
Force Constant ±10% ^②		K _f	N/A	21.4
Back EMF Constant ±10% ^②		K _e	V/(m/s)	21.4
Motor Constant @25°C ^②		K _m	N/Sqrt(W)	6.59
Resistance @25°C ±10% ^③		R ₂₅	Ω	10.51
Inductance ±20% ^④		L	mH	4.20
Electrical Time Constant		τ _e	ms	0.40
Continuous Current @100°C ^①		I _c	A	0.8
Peak Current		I _{pk}	A	4.5
Continuous Power Dissipation @100°C ^①		P _c	W	8.7
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ^①		K _{th}	W/°C	0.116
Max.Voltage		U _{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	68.0
Core Mass		m _{core}	g	218.7
Running Clearance		L _{gap}	mm	0.60
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

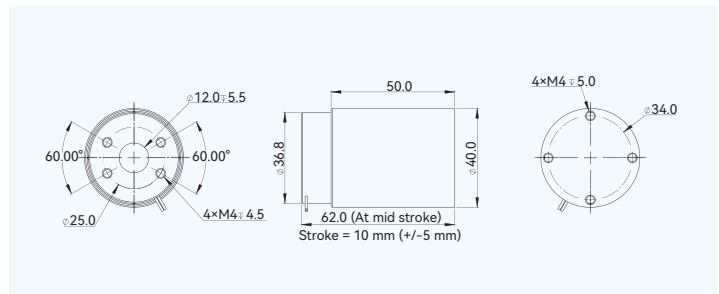


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 ② The values are at mid stroke.
 ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 ④ Inductance is measured by current frequency of 1 kHz.
 The contents of datasheet are subject to change without prior notice.

AVM40-HF-10

Performance Parameters		Symbol	Unit	AVM40-HF-10
Stroke		S	mm	10.0
Continuous Force @100°C ^{①②}		F _c	N	25.5
Peak Force ^②		F _{pk}	N	102.1
Force Constant ±10% ^②		K _f	N/A	19.6
Back EMF Constant ±10% ^②		K _e	V/(m/s)	19.6
Motor Constant @25°C ^②		K _m	N/Sqrt(W)	9.14
Resistance @25°C ±10% ^③		R ₂₅	Ω	4.60
Inductance ±20% ^④		L	mH	1.96
Electrical Time Constant		τ _e	ms	0.43
Continuous Current @100°C ^①		I _c	A	1.3
Peak Current		I _{pk}	A	5.2
Continuous Power Dissipation @100°C ^①		P _c	W	10.0
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ^①		K _{th}	W/°C	0.134
Max.Voltage		U _{max}	V _{dc}	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	80.5
Core Mass		m _{core}	g	334.5
Running Clearance		L _{gap}	mm	0.50
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

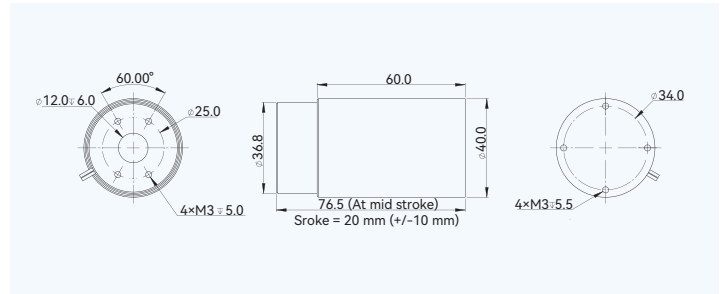


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 ② The values are at mid stroke.
 ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 ④ Inductance is measured by current frequency of 1 kHz.
 The contents of datasheet are subject to change without prior notice.

AVM40-HF-20

Performance Parameters		Symbol	Unit	AVM40-HF-20
Stroke		S	mm	20.0
Continuous Force @100°C ^{① ②}		F _c	N	30.4
Peak Force ^②		F _{pk}	N	122.1
Force Constant ±10% ^③		K _f	N/A	23.4
Back EMF Constant ±10% ^③		K _e	V/(m/s)	23.4
Motor Constant @25°C ^②		K _m	N/Sqrt(W)	8.78
Resistance @25°C ±10% ^③		R ₂₅	Ω	7.10
Inductance ±20% ^④		L	mH	3.56
Electrical Time Constant		τ _e	ms	0.50
Continuous Current @100°C ^①		I _c	A	1.3
Peak Current		I _{pk}	A	5.2
Continuous Power Dissipation @100°C ^①		P _c	W	15.5
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ^①		K _{th}	W/°C	0.206
Max.Voltage		U _{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	146.9
Core Mass		m _{core}	g	397.3
Running Clearance		L _{gap}	mm	0.50
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

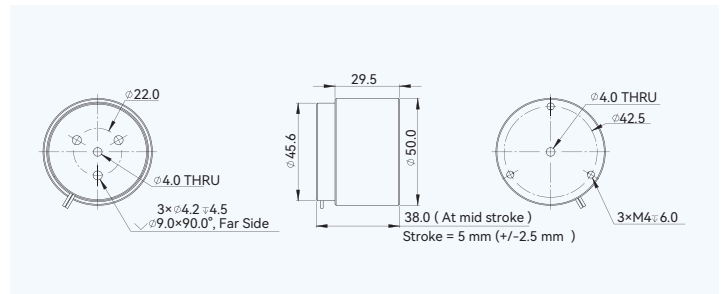


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject to change without prior notice.

AVM50-HF-5

Performance Parameters		Symbol	Unit	AVM50-HF-5
Stroke		S	mm	5.0
Continuous Force @100°C ① ②		F _c	N	23.1
Peak Force ②		F _{pk}	N	92.9
Force Constant ±10% ②		K _f	N/Arms	16.5
Back EMF Constant ±10% ②		K _e	Vpeak/(m/s)	16.5
Motor Constant @25°C ②		K _m	N/Sqrt(W)	8.96
Resistance @25°C ±10% ③		R ₂₅	Ω	3.40
Inductance ±20% ④		L	mH	1.20
Electrical Time Constant		τ _e	ms	0.35
Continuous Current @100°C ①		I _c	Arms	1.4
Peak Current		I _{pk}	Arms	5.6
Continuous Power Dissipation @100°C ①		P _t	W	8.6
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.115
Max.Voltage		U _{max}	V _{dc}	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	71.5
Core Mass		m _{core}	g	344.6
Running Clearance		L _{gap}	mm	0.50
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension



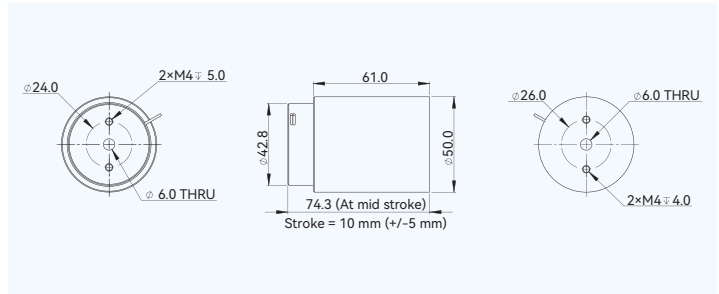
- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject to change without prior notice.

AVM High Force Series

AVM50-HF-10

Performance Parameters		Symbol	Unit	AVM50-HF-10
Stroke		S	mm	10.0
Continuous Force @100°C ① ②		F _c	N	34.6
Peak Force ②		F _{pk}	N	141.4
Force Constant ±10% ②		K _f	N/A	28.8
Back EMF Constant ±10% ②		K _e	V/(m/s)	28.8
Motor Constant @25°C ③		K _m	N/Sqrt(W)	9.88
Resistance @25°C ±10% ③		R ₂₅	Ω	8.50
Inductance ±20% ④		L	mH	5.20
Electrical Time Constant		τ _e	ms	0.61
Continuous Current @100°C ①		I _c	A	1.2
Peak Current		I _{pk}	A	5.0
Continuous Power Dissipation @100°C ①		P _c	W	15.8
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.210
Max.Voltage		U _{max}	Vdc	60
Mechanical Parameters				
Coil Mass	m _{coil}	g		148.0
Core Mass	m _{core}	g		553.0
Running Clearance	L _{gap}	mm		0.60
Other Information				
Insulation Class	Class A (105°C)			
Protection Grade	IP00			
Compliance with Global Standards	RoHS			
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

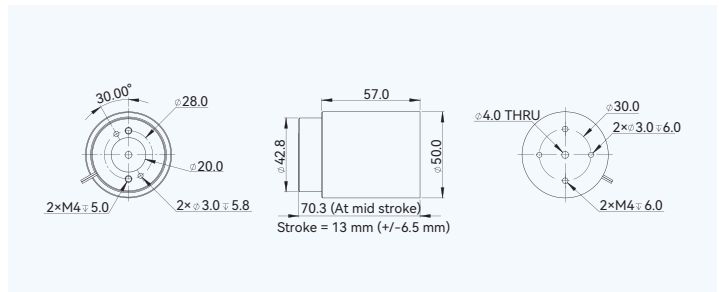


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 ② The values are at mid stroke.
 ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 ④ Inductance is measured by current frequency of 1 kHz.
 The contents of datasheet are subject to change without prior notice.

AVM50-HF-13

Performance Parameters		Symbol	Unit	AVM50-HF-13
Stroke		S	mm	13.0
Continuous Force @100°C ① ②		F _c	N	39.7
Peak Force ②		F _{pk}	N	165.7
Force Constant ±10% ②		K _f	N/Arms	33.1
Back EMF Constant ±10% ②		K _e	Vpeak/(m/s)	33.1
Motor Constant @25°C ③		K _m	N/Sqrt(W)	11.11
Resistance @25°C ±10% ③		R ₂₅	Ω	8.86
Inductance ±20% ④		L	mH	5.08
Electrical Time Constant		τ _e	ms	0.57
Continuous Current @100°C ①		I _c	Arms	1.2
Peak Current		I _{pk}	Arms	5.0
Continuous Power Dissipation @100°C ①		P _c	W	16.4
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.219
Max.Voltage		U _{max}	Vdc	60
Mechanical Parameters				
Coil Mass	m _{coil}	g		144.0
Core Mass	m _{core}	g		628.0
Running Clearance	L _{gap}	mm		0.60
Other Information				
Insulation Class	Class A (105°C)			
Protection Grade	IP00			
Compliance with Global Standards	RoHS			
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

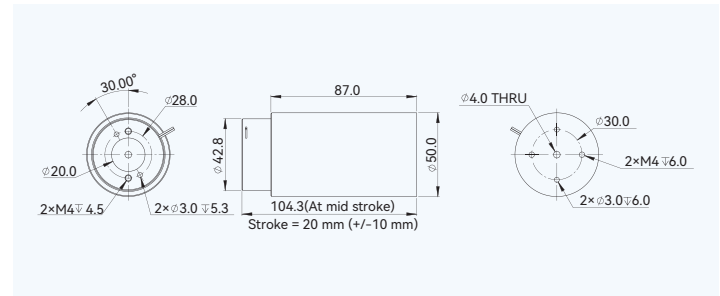


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 ② The values are at mid stroke.
 ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 ④ Inductance is measured by current frequency of 1 kHz.
 The contents of datasheet are subject to change without prior notice.

AVM50-HF-20

Performance Parameters	Symbol	Unit	AVM50-HF-20
Stroke	S	mm	20.0
Continuous Force @100°C ① ②	F _c	N	50.0
Peak Force ②	F _{pk}	N	208.5
Force Constant ±10% ②	K _f	N/A	41.6
Back EMF Constant ±10% ②	K _e	V/(m/s)	41.6
Motor Constant @25°C ②	K _m	N/Sqrt(W)	12.0
Resistance @25°C ±10% ③	R ₂₅	Ω	11.9
Inductance ±20% ④	L	mH	7.5
Electrical Time Constant	τ _e	ms	0.63
Continuous Current @100°C ①	I _c	A	1.2
Peak Current	I _{pk}	A	5.0
Continuous Power Dissipation @100°C ①	P _c	W	22.2
Max. Coil Temperature	t _{max}	°C	100
Thermal Dissipation Constant ①	K _{th}	W/°C	0.295
Max.Voltage	U _{max}	Vdc	60
Mechanical Parameters			
Coil Mass	m _{coil}	g	195.0
Core Mass	m _{core}	g	931.1
Running Clearance	L _{gap}	mm	0.60
Other Information			
Insulation Class	Class A (105°C)		
Protection Grade	IP00		
Compliance with Global Standards	RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)	
	Storage	-15°C to 70°C (non-freezing)	
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)	
	Storage	10%RH to 90%RH (non-condensing)	
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.	

Dimension

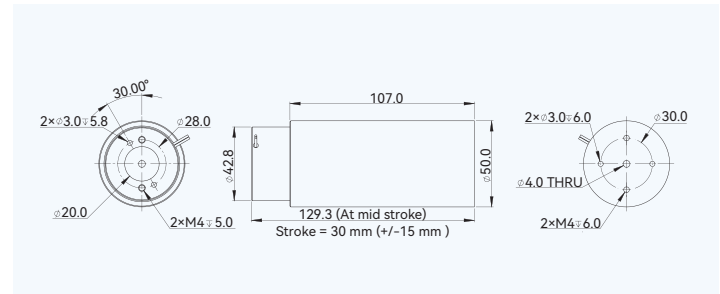


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 ② The values are at mid stroke.
 ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 ④ Inductance is measured by current frequency of 1 kHz.
 The contents of datasheet are subject to change without prior notice.

AVM50-HF-30

Performance Parameters	Symbol	Unit	AVM50-HF-30
Stroke	S	mm	30.0
Continuous Force @100°C ① ②	F _c	N	46.1
Peak Force ②	F _{pk}	N	202.3
Force Constant ±10% ②	K _f	N/A	25.6
Back EMF Constant ±10% ②	K _e	V/(m/s)	25.6
Motor Constant @25°C ②	K _m	N/Sqrt(W)	10.7
Resistance @25°C ±10% ③	R ₂₅	Ω	5.70
Inductance ±20% ④	L	mH	8.15
Electrical Time Constant	τ _e	ms	1.43
Continuous Current @100°C ①	I _c	A	1.8
Peak Current	I _{pk}	A	7.9
Continuous Power Dissipation @100°C ①	P _c	W	23.8
Max. Coil Temperature	t _{max}	°C	100
Thermal Dissipation Constant ①	K _{th}	W/°C	0.317
Max.Voltage	U _{max}	Vdc	60
Mechanical Parameters			
Coil Mass	m _{coil}	g	376.3
Core Mass	m _{core}	g	1132.1
Running Clearance	L _{gap}	mm	0.60
Other Information			
Insulation Class	Class A (105°C)		
Protection Grade	IP00		
Compliance with Global Standards	RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)	
	Storage	-15°C to 70°C (non-freezing)	
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)	
	Storage	10%RH to 90%RH (non-condensing)	
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.	

Dimension



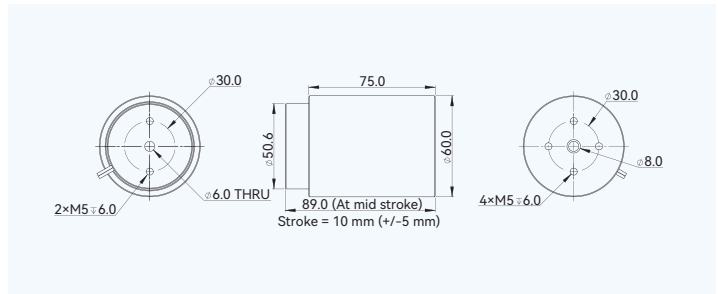
- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 ② The values are at mid stroke.
 ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 ④ Inductance is measured by current frequency of 1 kHz.
 The contents of datasheet are subject to change without prior notice.

AVM High Force Series

AVM60-HF-10

Performance Parameters		Symbol	Unit	AVM60-HF-10
Stroke		S	mm	10.0
Continuous Force @100°C ^{① ②}		F _c	N	52.2
Peak Force ^②		F _{pk}	N	223.7
Force Constant ±10% ^③		K _f	N/A	32.6
Back EMF Constant ±10% ^②		K _e	V/(m/s)	32.6
Motor Constant @25°C ^②		K _m	N/Sqrt(W)	13.3
Resistance @25°C ±10% ^③		R ₂₅	Ω	5.98
Inductance ±20% ^④		L	mH	4.33
Electrical Time Constant		τ _e	ms	0.72
Continuous Current @100°C ^①		I _c	A	1.6
Peak Current		I _{pk}	A	7.0
Continuous Power Dissipation @100°C ^①		P _c	W	19.7
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ^①		K _{th}	W/°C	0.263
Max.Voltage		U _{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	236.5
Core Mass		m _{core}	g	997.0
Running Clearance		L _{gap}	mm	0.70
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

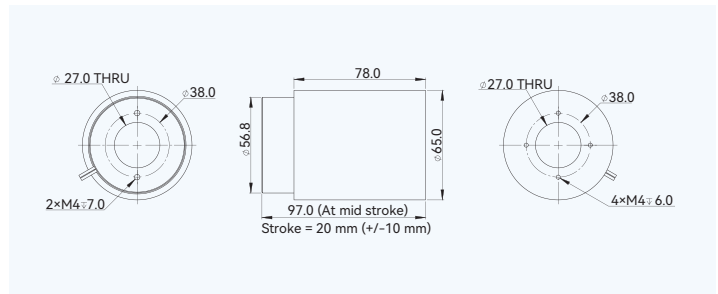


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject to change without prior notice.

AVM65-HF-20

Performance Parameters		Symbol	Unit	AVM65-HF-20
Stroke		S	mm	20.0
Continuous Force @100°C ^{① ②}		F _c	N	47.8
Peak Force ^②		F _{pk}	N	143.6
Force Constant ±10% ^②		K _f	N/A	31.9
Back EMF Constant ±10% ^③		K _e	V/(m/s)	31.9
Motor Constant @25°C ^②		K _m	N/Sqrt(W)	11.9
Resistance @25°C ±10% ^③		R ₂₅	Ω	7.20
Inductance ±20% ^④		L	mH	8.66
Electrical Time Constant		τ _e	ms	1.20
Continuous Current @100°C ^①		I _c	A	1.5
Peak Current		I _{pk}	A	4.5
Continuous Power Dissipation @100°C ^①		P _c	W	20.9
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ^①		K _{th}	W/°C	0.278
Max.Voltage		U _{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	365.5
Core Mass		m _{core}	g	1210.8
Running Clearance		L _{gap}	mm	0.60
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

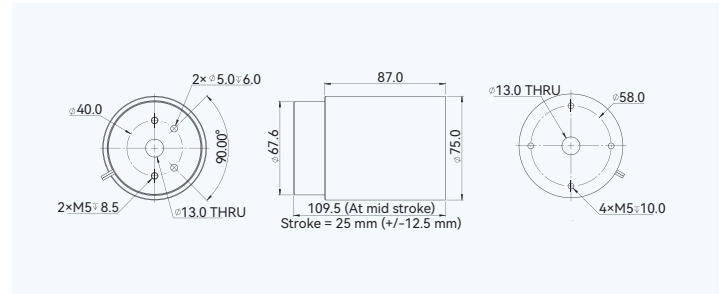


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject to change without prior notice.

AVM75-HF-25

Performance Parameters		Symbol	Unit	AVM75-HF-25
Stroke		S	mm	25.0
Continuous Force @100°C ① ②		F _c	N	127.9
Peak Force ②		F _{pk}	N	590.1
Force Constant ±10% ②		K _f	N/A	34.6
Back EMF Constant ±10% ②		K _e	V/(m/s)	34.6
Motor Constant @25°C ②		K _m	N/Sqrt(W)	20.6
Resistance @25°C ±10% ③		R ₂₅	Ω	2.83
Inductance ±20% ④		L	mH	2.76
Electrical Time Constant		τ _e	ms	0.98
Continuous Current @100°C ①		I _c	A	3.7
Peak Current		I _{pk}	A	17.0
Continuous Power Dissipation @100°C ①		P _c	W	49.8
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.665
Max.Voltage		U _{max}	Vdc	60
Mechanical Parameters				
Coil Mass		m _{coil}	g	710.0
Core Mass		m _{core}	g	1940.0
Running Clearance		L _{gap}	mm	0.50
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

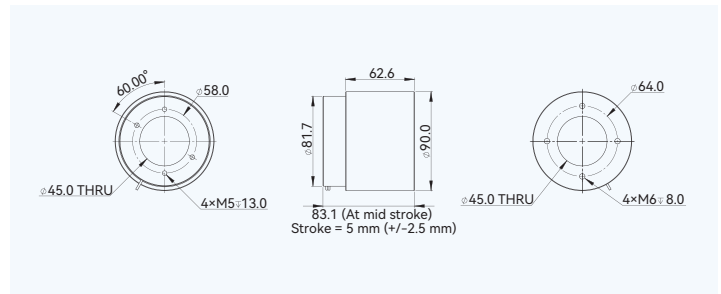


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 ② The values are at mid stroke.
 ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 ④ Inductance is measured by current frequency of 1 kHz.
 The contents of datasheet are subject to change without prior notice.

AVM90-HF-5

Performance Parameters		Symbol	Unit	AVM90-HF-5
Stroke		S	mm	5.0
Continuous Force @100°C ^{① ②}		F _c	N	61.6
Peak Force ^②		F _{pk}	N	218.6
Force Constant ±10% ^②		K _f	N/A	15.5
Back EMF Constant ±10% ^③		K _e	V/(m/s)	15.5
Motor Constant @25°C ^②		K _m	N/Sqrt(W)	14.2
Resistance @25°C ±10% ^③		R ₂₅	Ω	1.20
Inductance ±20% ^④		L	mH	0.75
Electrical Time Constant		τ _e	ms	0.63
Continuous Current @100°C ^①		I _c	A	4.0
Peak Current		I _{pk}	A	14.0
Continuous Power Dissipation @100°C ^①		P _c	W	24.3
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ^①		K _{th}	W/°C	0.323
Max.Voltage		U _{max}	Vdc	120
Mechanical Parameters				
Coil Mass		m _{coil}	g	427.2
Core Mass		m _{core}	g	1514.6
Running Clearance		L _{gap}	mm	0.65
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension



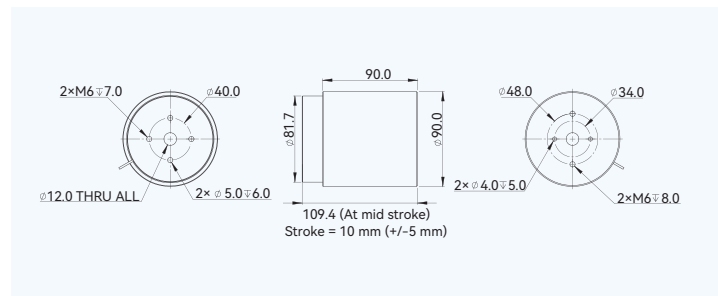
- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 ② The values are at mid stroke.
 ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 ④ Inductance is measured by current frequency of 1 kHz.
 The contents of datasheet are subject to change without prior notice.

AVM High Force Series

AVM90-HF-10

Performance Parameters		Symbol	Unit	AVM90-HF-10
Stroke		S	mm	10.0
Continuous Force @100°C ① ②		F _c	N	156.1
Peak Force ②		F _{pk}	N	610.2
Force Constant ±10% ②		K _f	N/A	44.6
Back EMF Constant ±10% ②		K _e	V/(m/s)	44.6
Motor Constant @25°C ②		K _m	N/Sqrt(W)	25.3
Resistance @25°C ±10% ③		R ₂₅	Ω	3.10
Inductance ±20% ④		L	mH	4.02
Electrical Time Constant		τ _e	ms	1.30
Continuous Current @100°C ①		I _c	A	3.5
Peak Current		I _{pk}	A	14.0
Continuous Power Dissipation @100°C ①		P _t	W	48.9
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.653
Max.Voltage		U _{max}	Vdc	120
Mechanical Parameters				
Coil Mass		m _{coil}	g	960.0
Core Mass		m _{core}	g	2400.0
Running Clearance		L _{gap}	mm	0.65
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

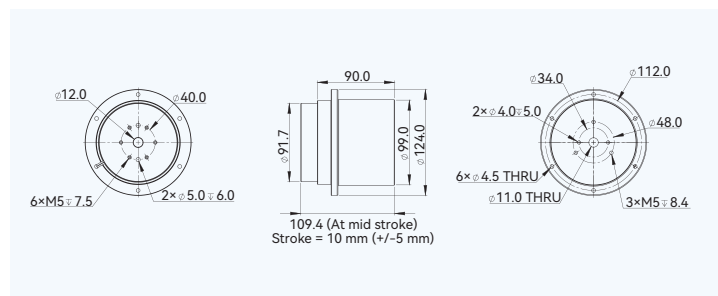


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject to change without prior notice.

AVM100-HF-10

Performance Parameters		Symbol	Unit	AVM100-HF-10
Stroke		S	mm	10.0
Continuous Force @100°C ^{①②}		F _c	N	193.6
Peak Force ^②		F _{pk}	N	763.7
Force Constant ±10% ^②		K _f	N/A	55.3
Back EMF Constant ±10% ^②		K _e	V/(m/s)	55.3
Motor Constant @25°C ^②		K _m	N/Sqrt(W)	30.0
Resistance @25°C ±10% ^③		R ₂₅	Ω	3.40
Inductance ±20% ^④		L	mH	4.43
Electrical Time Constant		τ _e	ms	1.30
Continuous Current @100°C ^①		I _c	A	3.5
Peak Current		I _{pk}	A	14.0
Continuous Power Dissipation @100°C ^①		P _t	W	53.7
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ^①		K _{th}	W/°C	0.716
Max.Voltage		U _{max}	Vdc	120
Mechanical Parameters				
Coil Mass		m _{coil}	g	1117.0
Core Mass		m _{core}	g	3300.0
Running Clearance		L _{gap}	mm	0.65
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

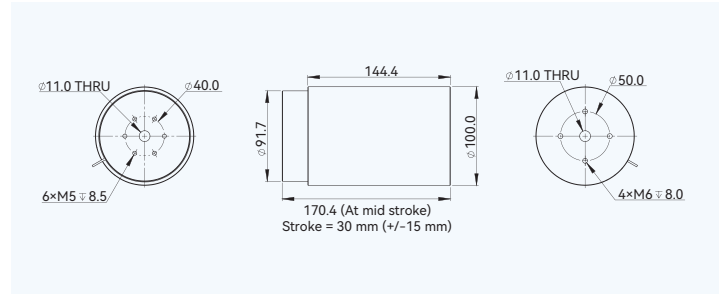


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject to change without prior notice.

AVM100-HF-30

Performance Parameters		Symbol	Unit	AVM100-HF-30
Stroke		S	mm	30.0
Continuous Force @100°C ① ②		F _c	N	309.5
Peak Force ②		F _{pk}	N	1241.9
Force Constant ±10% ③		K _f	N/A	88.4
Back EMF Constant ±10% ③		K _e	V/(m/s)	88.4
Motor Constant @25°C ③		K _m	N/Sqrt(W)	39.2
Resistance @25°C ±10% ③		R ₂₅	Ω	5.10
Inductance ±20% ④		L	mH	7.78
Electrical Time Constant		τ _e	ms	1.53
Continuous Current @100°C ①		I _c	A	3.5
Peak Current		I _{pk}	A	14.0
Continuous Power Dissipation @100°C ①		P _c	W	80.5
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	1.074
Max.Voltage		U _{max}	Vdc	120
Mechanical Parameters				
Coil Mass		m _{coil}	g	2012.9
Core Mass		m _{core}	g	5485.7
Running Clearance		L _{gap}	mm	0.65
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

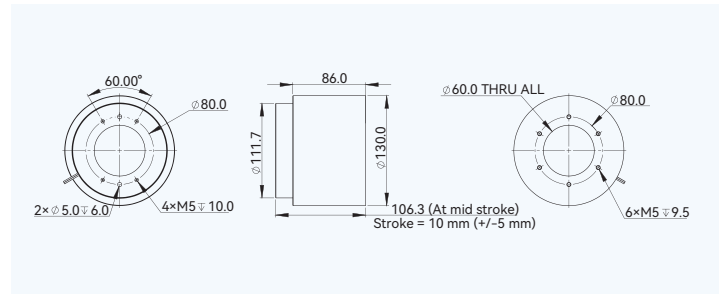


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject to change without prior notice.

AVM130-HF-10

Performance Parameters		Symbol	Unit	AVM130-HF-10
Stroke		S	mm	10.0
Continuous Force @100°C ① ②		F _c	N	150.8
Peak Force ②		F _{pk}	N	452.3
Force Constant ±10% ②		K _f	N/A	22.8
Back EMF Constant ±10% ②		K _e	V/(m/s)	22.8
Motor Constant @25°C ②		K _m	N/Sqrt(W)	26.4
Resistance @25°C ±10% ③		R ₂₅	Ω	0.75
Inductance ±20% ④		L	mH	0.75
Electrical Time Constant		τ _e	ms	1.00
Continuous Current @100°C ①		I _c	A	6.6
Peak Current		I _{pk}	A	19.8
Continuous Power Dissipation @100°C ①		P _c	W	42.1
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	0.56
Max.Voltage		U _{max}	Vdc	120
Mechanical Parameters				
Coil Mass		m _{coil}	g	1080.0
Core Mass		m _{core}	g	5300.0
Running Clearance		L _{gap}	mm	0.55
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience	Indoor (no direct sunlight);			
	No corrosive gas, inflammable gas, oil mist or dust.			

Dimension



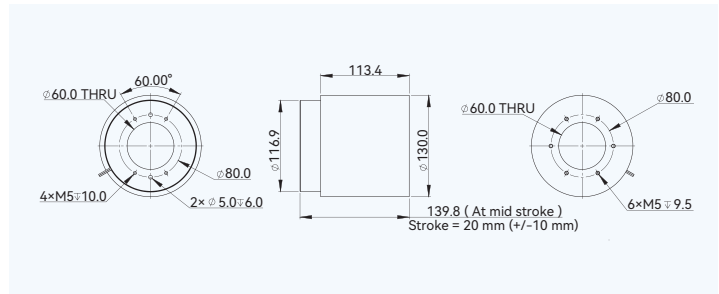
- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject to change without prior notice.

AVM High Force Series

AVM130-HF-20

Performance Parameters		Symbol	Unit	AVM130-HF-20
Stroke		S	mm	20.0
Continuous Force @100°C ^{①②}		F _c	N	226.0
Peak Force ^②		F _{pk}	N	678.1
Force Constant ±10% ^②		K _f	N/A	70.6
Back EMF Constant ±10% ^②		K _e	V/(m/s)	70.6
Motor Constant @25°C ^②		K _m	N/Sqrt(W)	30.8
Resistance @25°C ±10% ^③		R ₂₅	Ω	5.27
Inductance ±20% ^④		L	mH	7.83
Electrical Time Constant		τ _e	ms	1.49
Continuous Current @100°C ^①		I _c	A	3.2
Peak Current		I _{pk}	A	9.6
Continuous Power Dissipation @100°C ^①		P _c	W	69.5
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ^①		K _{th}	W/°C	0.927
Max.Voltage		U _{max}	Vdc	120
Mechanical Parameters				
Coil Mass		m _{coil}	g	1955.5
Core Mass		m _{core}	g	6559.0
Running Clearance		L _{gap}	mm	0.55
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

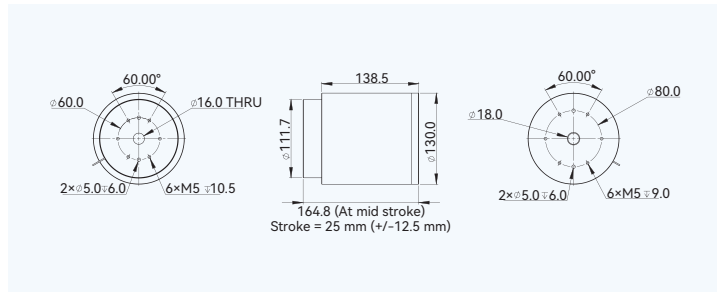


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject to change without prior notice.

AVM130-HF-25

Performance Parameters		Symbol	Unit	AVM130-HF-25
Stroke		S	mm	25.0
Continuous Force @100°C ① ②		F _c	N	316.4
Peak Force ②		F _{pk}	N	667.8
Force Constant ±10% ②		K _f	N/A	47.9
Back EMF Constant ±10% ②		K _e	V/(m/s)	47.9
Motor Constant @25°C ②		K _m	N/Sqrt(W)	40.2
Resistance @25°C ±10% ③		R ₂₅	Ω	1.42
Inductance ±20% ④		L	mH	1.59
Electrical Time Constant		τ _e	ms	1.12
Continuous Current @100°C ①		I _c	A	6.6
Peak Current		I _{pk}	A	14.0
Continuous Power Dissipation @100°C ①		P _z	W	79.7
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	1.063
Max.Voltage		U _{max}	Vdc	120
Mechanical Parameters				
Coil Mass		m _{coil}	g	1550.0
Core Mass		m _{core}	g	9300.0
Running Clearance		L _{gap}	mm	0.55
Other Information				
Insulation Class		Class A (105°C)		
Protection Grade		IP00		
Compliance with Global Standards		RoHS		
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

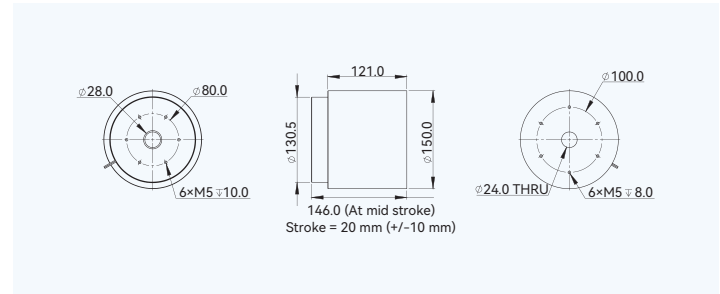


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject to change without prior notice.

AVM150-HF-20

Performance Parameters		Symbol	Unit	AVM150-HF-20
Stroke		S	mm	20.0
Continuous Force @100°C ① ②		F _c	N	626.0
Peak Force ②		F _{pk}	N	1882.5
Force Constant ±10% ③		K _f	N/A	104.3
Back EMF Constant ±10% ③		K _e	V/(m/s)	104.3
Motor Constant @25°C ③		K _m	N/Sqrt(W)	61.3
Resistance @25°C ±10% ③		R ₂₅	Ω	2.90
Inductance ±20% ④		L	mH	2.10
Electrical Time Constant		τ _e	ms	0.72
Continuous Current @100°C ①		I _c	A	6.0
Peak Current		I _{pk}	A	18.0
Continuous Power Dissipation @100°C ①		P _c	W	134.5
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	1.794
Max.Voltage		U _{max}	Vdc	120
Mechanical Parameters				
Coil Mass	m _{coil}	g		1500.0
Core Mass	m _{core}	g		13100.0
Running Clearance	L _{gap}	mm		0.75
Other Information				
Insulation Class	Class A (105°C)			
Protection Grade	IP00			
Compliance with Global Standards	RoHS			
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension

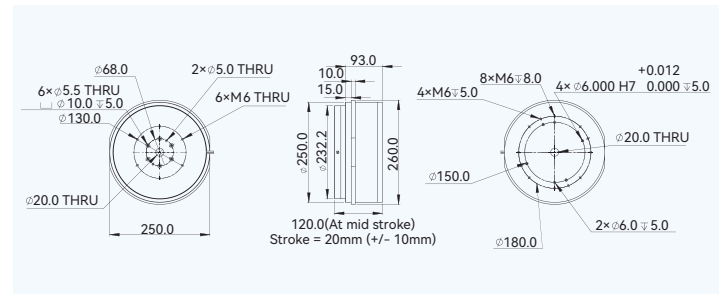


- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject to change without prior notice.

AVM250-HF-20

Performance Parameters		Symbol	Unit	AVM250-HF-20
Stroke		S	mm	20.0
Continuous Force @100°C ① ②		F _c	N	1111.4
Peak Force ②		F _{pk}	N	4715.2
Force Constant ±10% ③		K _f	N/A	168.4
Back EMF Constant ±10% ③		K _e	V/(m/s)	168.4
Motor Constant @25°C ③		K _m	N/Sqrt(W)	87.5
Resistance @25°C ±10% ③		R ₂₅	Ω	3.70
Inductance ±20% ④		L	mH	5.32
Electrical Time Constant		τ _e	ms	1.44
Continuous Current @100°C ①		I _c	A	6.6
Peak Current		I _{pk}	A	28.0
Continuous Power Dissipation @100°C ①		P _c	W	207.7
Max. Coil Temperature		t _{max}	°C	100
Thermal Dissipation Constant ①		K _{th}	W/°C	2.769
Max.Voltage		U _{max}	Vdc	120
Mechanical Parameters				
Coil Mass	m _{coil}	g		5900.0
Core Mass	m _{core}	g		27200.0
Running Clearance	L _{gap}	mm		0.90
Other Information				
Insulation Class	Class A (105°C)			
Protection Grade	IP00			
Compliance with Global Standards	RoHS			
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience		Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.		

Dimension



- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 - ② The values are at mid stroke.
 - ③ Resistance is measured by DC current with standard 0.5 m lead wire.
 - ④ Inductance is measured by current frequency of 1 kHz.
- The contents of datasheet are subject to change without prior notice.

Part Numbering

